



L. C. Raymond.

	Page
A Day by the Sea Shore.—H. C. Bailey, Agr., '17.	158
A Few Hours at Eton College—Miss N. MacMillan.	153
Agricultural Education—P. S. Inspectors.	149
AGRONOMY :—	
A Line for Improvement in Forage Grasses—F. S. Browne, B.S.A., '12.	165
A Note on the Short Courses.	169
Clay: Its Properties and Products—O. C. Hicks, Agr., '15.	256
Clovers, their Value as Soil Improvers—G. Moe, '14.	17
Crop Rotation—P. A. Boving, B.A., B.S.A.	88
Cultural and Breeding Results with Alfalfa—Prof. L. S. Klinck.	249
Notes on Alfalfa—L. C. Raymond, B.S.A.	19
Permanent Pastures—Wm. Newton, Agr., '14.	91
Some Evidence of Immaturity in Canadian Grown Corn—C. H. Hodge, Agr., '14.	167
Alumni.	60, 136, 219, 316
A Post Graduate Course at Macdonald—Principal Cumming, N.S.A.C.	1
Athletics.	65, 139, 222, 320
Bugless Milk—R. Dougall, Agr., '14.	231
Class Presidents.	130
College Life.	48, 121, 208, 295
Editorial Comment.	12, 85, 161, 242
Faculty Items.	59, 135, 287
Fairy Tales of Science—Wm. Lochhead, B.A., M.Sc.	82
Fox-Farming on Prince Edward Island—B. McFarlane, Sc., '14.	238
Fur Specialties, Staples and Imitations—J. Walter Jones, B.S.A.	78
HORTICULTURE :—	
A Northern Quebec All-Year-'Round Home—A. H. Tull, Agr., '17.	270
Formation of Fruit Buds—Prof. T. G. Bunting.	267
Fruit and Flower Show at St. Catharines—H. J. M. Fiske, '14.	26
Horticulture in Nova Scotia—Prof. W. S. Blair, Dir. Kentville Experimental Station.	178
Macdonald Horticultural and Apiary Club.	272
One of Canada's Horticulturists Passes Away.	184
Problems of the Fruit Grower.	104
Production of No. III. Apples—C. E. Chute, Agr., '15.	104
The Cultivation of Chrysanthemums for Commercial Cut Flowers—A. H. Walker.	101
The Horticultural Exhibition at Toronto—H. J. M. Fiske, Agr., '14.	182
HOUSEHOLD SCIENCE :—	
A Winter in the South—Mrs. Crowell, H. Sci., '13.	44
Autumn Short Course—H. M. R.	205
Fields of Work open to Women with a Home Economics Training—A. E. H.	119
How Would You Divide the Income for Two?—Miss L. B. Robins, B.A.	283
Macdonald College Demonstrator for Women's Institutes.	43
Maple Sap and Its Products—J. F. Snell, Ph. D.	115
New Year's Resolutions for the "Spending Partner"—Mrs. E. T. Rutter.	199
The Day of the Specialist—Mary J. Houston.	203
The Spirit of Needlework—A. E. W., Sc., '15.	202
In Lighter Vein.	69, 145, 226, 331
Life at a Military College. —A. E. Piddington, Agr., '17.	156
LIVE STOCK AND DAIRY :—	
A Fitting Memento—L. J. Westbrook, Agr., '15.	176
A Rising Profession—A Savage, Agr., '15.	260
Extension Work in Animal Husbandry Dept.—W. L. Macfarlane, '14.	22
Live Stock Notes—W. L. Macfarlane, '14.	24
Macdonald College Judging Team—A. A. MacMillan, B.S.A.	94
Macdonald College Stock Judging Team—G. C. Boyce, Agr., '15.	174

INDEX—Continued

LIVE STOCK AND DAIRY:—Contd.	Page
Milking Machines—J. Vanderleck, B. Ch. E.....	171
The Concluding Training Trips of the Stock Judging Team—H. D. Mitchell, Agr., '15	97
Wool and Mutton in Quebec—L. C. McOuat, Agr., '15.....	262
On a New Method of Measuring the Capillary Lift of Soils—C. J. Lynde, Ph. D.....	3
POULTRY :—	
Brooding—S. A. Bergey, B.S.A.....	273
Fitting Fowls for Winter Shows—L. W. Crothers, Agr., '16.....	188
Management of Poultry to Secure Profit—J. C. Moynan, Agr., '16.....	185
Poultry Notes.—M. A. J.....	189
Special Poultry Work—F. C. Elford.	105
The Dressed Poultry Trade.—M. A. Jull, B. S.A.....	28
Rural Sociology at Amherst—F. W. Read	9
Some Adaptations in West Indian Plant Life—J. H. McCormick, Agr., '15.....	235
Storiette—R. P. Gorham, B.S.A., '11.....	206
TEACHERS :—	
A Trip to Nassau—Miss A. M. Bardorf, T., '14.....	34
Dean Laird.....	41
Dr. Sinclair Visits Macdonald.....	114
Isle Percée—Miss J. Lindsay, T., '14.....	279
My Experience as a Rural School Teacher—M. McD., T., '14.....	191
Pictures in Schools—Miss F. Howard, T., '14.	278
Teaching School the First Year—J. E. M.....	192
The Annual Convention of Protestant Teachers—Miss E. J. Stuart, T., '13.....	113
The Relation of Manual Training to Modern Industries—G. E. E.....	112
The Richness of Life—Miss L. B. Robins, B.A..	37
Tennyson—C. E. Ployart, T., '15.....	197
Winter Sports—M. D. P., T., '14.....	196
The Seniors..	289
The Dominion Experimental Farms System—J. B. Spencer, B.S.A.....	73
True College Service—W. J. W., Agr., '15.....	240
Under the Desk Lamp.....	132, 216, 310

GIFT FROM

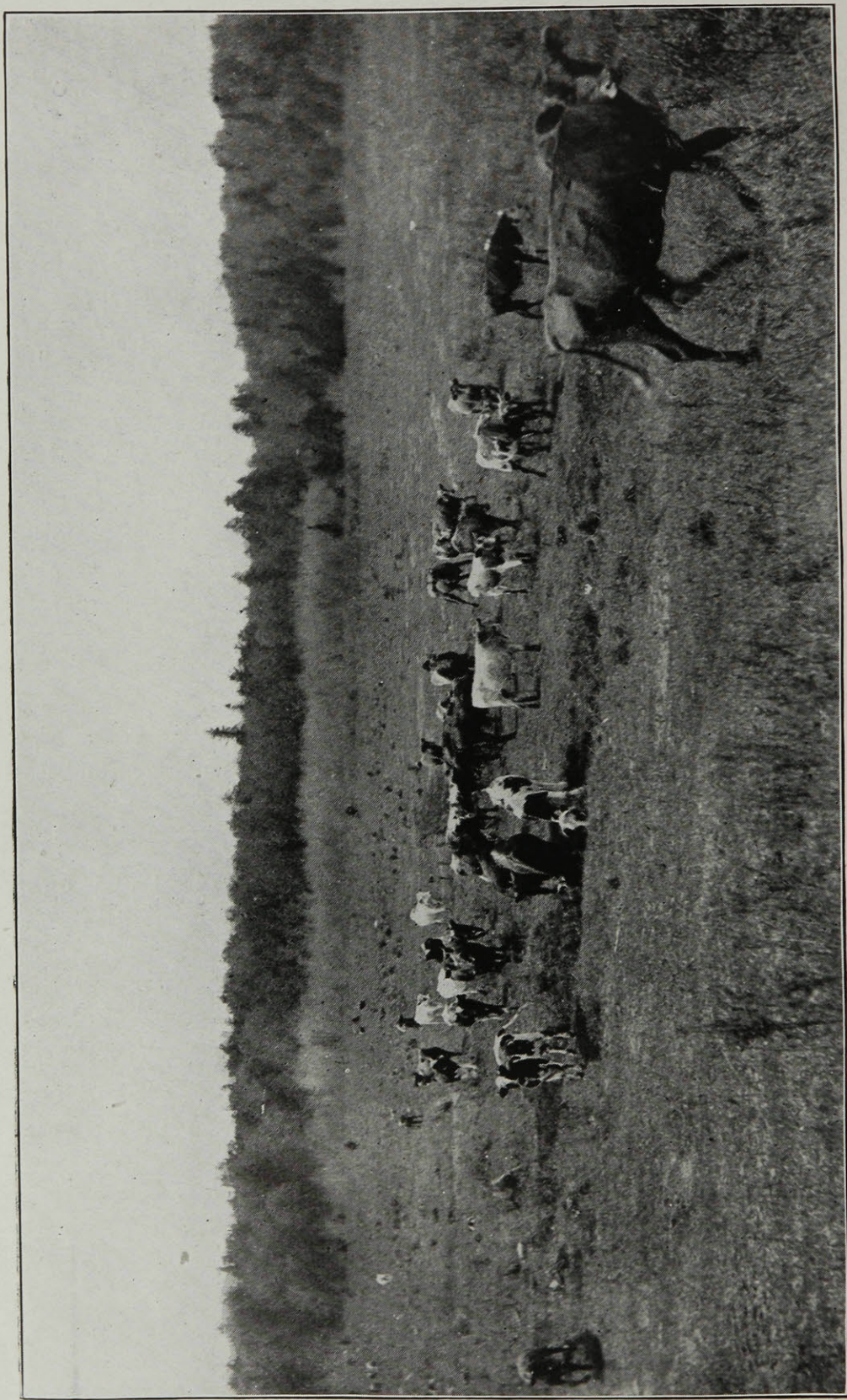
Prof. E. C. Raymond

ON

April 21/66

(Date)

MACDONALD COLLEGE LIBRARY



The Farmer's Joy.

A Post Graduate Course at Macdonald.

By M. CUMMING, B.A., B.S.A., Secretary for Agriculture, Principal College of Agriculture, Nova Scotia.



THE crying need in the agricultural college life in Canada to-day is a post graduate school, where men who have completed their Bachelor Courses and who are preparing themselves for positions as teachers, investigators, and leaders in various lines of agricultural education work, can continue their studies. We are probably within the mark when we state that 75% of the graduates of Canadian colleges who are employed as teachers and investigators have only completed their four years' Bachelor Course, and are in many cases teaching, in the advanced classes, students whose educational attainments are nearly equal to their own.

This state of affairs has, up to the present time, been almost unavoidable. The universal demand for agricultural education has led to developments which have required more men than were available. Moreover, the teachers in the more recently organized colleges have not been required to do much advanced teaching or investigation work. However, the growing attendance at the agricultural colleges, the increased circulation of agricultural bulletins, magazines, and papers has popularized elementary agricultural science to such an extent that a more advanced type of teaching is now demanded, and a need has arisen for a class of men whose educational equipment is of a higher order than formerly. We might elaborate this idea and show how, especially in original investigation, the scope of and demand for which is

almost unlimited in Canada, a much more thorough educational preparation is required than is possessed by the average man now engaged in such work.

Granted that there is a need in Canada for men having agricultural degrees of a higher order than the Bachelor's degree, the problem is where shall our graduates take their post graduate courses. At the present time, those who are taking such courses are entering the American agricultural colleges, where splendid opportunities are afforded them. However, many of our best men are not eligible for entrance to the post graduate schools at these American universities, and even if they were, it must be evident that, since agricultural education is essentially practical and prepares men for investigating and solving practical farm problems, it would be a great advantage if the post graduate courses attended by our men were Canadian in character, and if the problems studied were essentially Canadian problems. There should certainly be at least one Canadian post graduate school. Where should it be conducted?

The Provincial institutions receiving Government support have so many exactions made upon them by the people who support them that it seems almost impossible to establish such a post graduate agricultural school at any one of these institutions. Besides, we think one post graduate school will, for a long time, be sufficient for Canada, and if this is the case, it would be a great advantage to have such a school largely

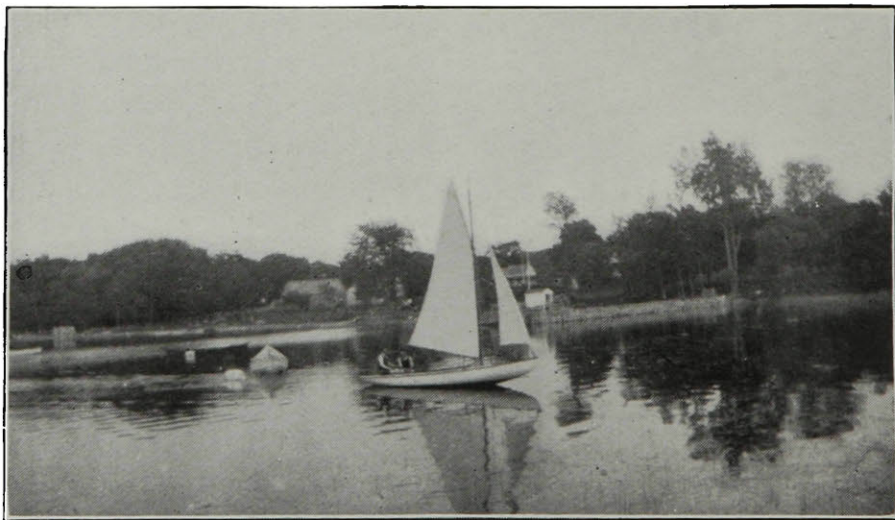
independent of support from any one Province. Macdonald seems eminently adapted to this important work.

No other agricultural college in Canada has such permanent buildings or such completely furnished laboratories. The location is easily accessible from all parts of Canada. The present faculty is an efficient one, but, of course, the establishment of a post graduate school would necessitate the addition of other well qualified professors. In fact, it would seem that little extra equipment would be required at Macdonald than the securing of the services of these extra men necessary to make such a course practicable.

And what a service Macdonald could in this way render the whole agricultural education system of Canada. Teachers, investigators, and leaders in all lines of agricultural work could attend such a school and further fit themselves for the important positions which must be filled if Canada is to derive her full benefit

from agricultural education. Moreover, such a school could be made a centre for fundamental investigation work such as has not yet been carried on in Canada—work which at present we are going to Germany and other countries abroad to study, but work which should be done right in our own country.

Only one other solution of this post graduate school seems feasible to the writer, and that is the establishment of such a school in connection with the Department of Agriculture at Ottawa. To our mind, however, Macdonald, with its magnificent equipment of buildings and laboratories, is already largely fitted for this purpose, and the Dominion Government could to advantage give special financial assistance to this institution, offering facilities in advance of any at present available in Canada for the preparation of men who shall be better teachers, investigators, and leaders along agricultural lines than any we have yet had in the Dominion.



On the Ottawa.

On a New Method of Measuring the Capillary Lift of Soils.¹

By C. J. LYNDE and H. A. DUPRE, Macdonald College, P. Q., Canada.



BY the term *capillary lift* we mean the maximum vertical height in centimeters to which the soil can raise water under a pressure of one atmosphere.

For the sake of clearness we have divided this paper into four parts, as follows:

I. A description of a new method of measuring the capillary lift of soils and a comparison of this method with the old method.

II. The results obtained in measuring the capillary lift of the soil constituents.

III. Results which indicate that the pressure of the atmosphere limits the lift which can be measured by this method.

IV. A discussion of the question "Can soils lift water to heights greater than ten meters, or 34 feet, the height to which water can be raised by atmospheric pressure?"

I. A NEW METHOD OF MEASURING THE CAPILLARY LIFT OF SOILS.

In the usual method of measuring the capillary lift in soils, a glass tube is covered at one end with cloth; the tube is filled with soil and the covered end is placed in water.

The disadvantages of this method are as follows:

1. The soil must be used in a fairly dry condition.

2. It takes months to make an experiment with a fine soil.

3. The results obtained with fine soils are of little value because friction stops the rise of moisture before the maximum lift is reached.

The advantages of the method described below are as follows:

1. The moisture moves through a wet soil.

2. The moisture passes through a very short column of the wet soil and thus friction is reduced to a minimum.

3. The time required to make a measurement is reduced from months to hours.

4. The final measurement is a fairly accurate measure of the capillary lift of the soil.

The apparatus used is illustrated in Fig. 9. It consists of an ordinary glass funnel about 4 cm. in diameter across the top. This is joined to a thick-walled capillary tube about 90 cm. long, by a piece of rubber tubing. The lower end of the capillary tube is placed in a cup of mercury. The water seal consists of a glass tube, 2 cm. in diameter and 15 cm. long, closed at the bottom with a rubber stopper through which the capillary tube passes. The seal is filled with water and prevents air from entering about the rubber tube.

How the Apparatus Was Set Up.—Duplicate 6-gram samples of soil were placed in water and allowed to stand over night. They were then boiled for a short time to expel air. The funnels were fitted with cotton cloth filters, cut into the form of circles 2 cm. in dia-

¹ Read before the Royal Society of Canada, May 28, 1913. Taken from the Journal of the American Society of Agronomy.

meter and folded filter fashion. Two cups of a centrifuge were then filled with distilled water previously boiled to expel the air; the funnels, with their filters, were placed in the cups, being

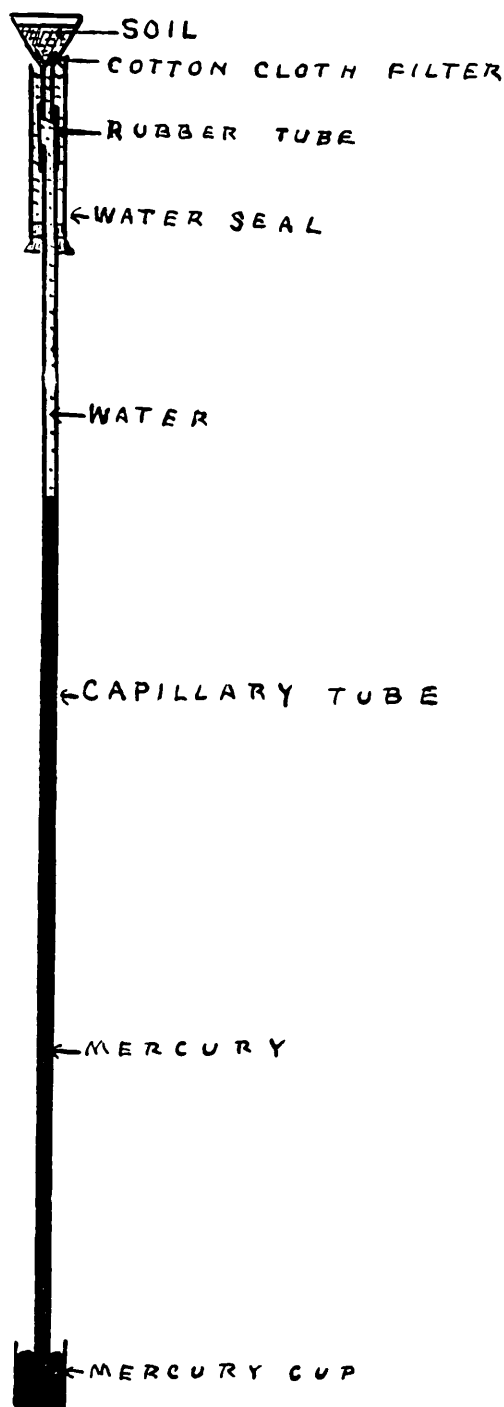


Fig. 9.—Apparatus used to measure the capillary lift of soils.

supported by the top rim of the cups. Part of the hot mixtures of soil and water was poured into the funnels and the soil was settled in the centrifuge. More soil and water was then added to

the funnels and the soil settled in the centrifuge. This was continued until the soil was well above the edges of the cotton cloth filters.

The capillary tubes, with the rubber tubes attached, were then filled with water previously boiled to expel air and the funnels were inserted into the rubber tubes. In doing this we took care to prevent air from entering the funnels or tubes, also we carefully avoided disturbing the soil. The lower ends of the capillary tubes were then placed in cups of mercury and the water seals were filled with boiled distilled water.

How the Experiment Works.—If, at the beginning, there is a layer of water above the soil, it gradually percolates through the soil and water comes out on the surface of the mercury in the mercury cup. That is, percolation takes place.

When the water disappears from the surface, however, the meniscuses in the soil pores begin to act. We picture this action as follows. Water molecules leave the surface of the meniscuses by evaporation and are replaced by water molecules from beneath the meniscuses. This brings about a decrease in pressure beneath the meniscuses and mercury is forced up in the capillary tube by atmospheric pressure.

This apparatus is similar to that used by Askenasy,² the chief difference being that we use a layer of soil instead of a plate of gypsum.

The maximum capillary lift produced by the soil is found as follows: Measure the length of the mercury column in centimeters, multiply this by 13.6 and add the length of the water column in centimeters from the top of the mercury column to the middle of the soil layer.

²Verhand. a. d. Naturhist. Med. Vereins Heidelberg, N.F., Bd. V, 1895; and N. F., V, 1896.

To test this method we used a clay subsoil the mechanical analysis of which is shown in Table I.

TABLE I.—*Mechanical Analysis of the Soil Used.*

	Per Cent
Clay.....	74.3
Silt.....	20.0
Sand, less than 2 mm.....	1.4
Sand, greater than 2 mm.....	.6
Organic matter.....	3.7

The results obtained are shown in Table II.

TABLE II.—*Three Capillary Lifts Produced by the Soil Mentioned Above*

Experi- ment.	Lift			Time Required.
	Hg.	H ₂ O.	H ₂ O.	
1	cm. 67.5	cm. 918	feet. 30.1	hours. 20
2	65.4	888	29.1	22
3	63.6	865	28.3	23

COMPARISON OF THE NEW METHOD WITH THE OLD METHOD.

As far as we are aware, the greatest capillary lift measured by the old method is that of Loughridge.³ He used quartz tailings, .016-.005 mm. in diameter, and obtained a capillary lift of 10.17 feet, the time required being about 18 months. By the method described above we have been able to measure a capillary lift of 30.1 feet and the time required was 20 hours. That is, this method has enabled us to measure a capillary lift approximately three times as great as the maximum lift observed by the old method and the time required was reduced from months to hours.

Advantages of the New Method.—As stated above, the advantages of the new method are:

1. The moisture moves through a wet soil.

2. The moisture passes through a very short column of the wet soil and thus friction is reduced to a minimum.

3. The time required to make a measurement is reduced from months to hours.

4. The final measurement is a fairly accurate measure of the capillary lift of the soil.

II. THE CAPILLARY LIFT PRODUCED BY THE SOIL CONSTITUENTS.

The soil constituents were obtained from different soils of the Macdonald College farm by the regular operations used in the mechanical analysis of soils.

Method.—The apparatus was set up in duplicate for each soil constituent in the manner described above, with the following exceptions. With medium sand, which has a low capillary lift, we did not use a capillary tube; we simply stood the funnels in the cups of mercury. With fine sand and very fine sand we used short capillary tubes. The results are shown in Table III.

TABLE III.—*The Capillary Lift produced by the Soil Constituents.*

Soil Constituents.	Diameter of Grains.	Lift.		
		Hg.	H ₂ O.	H ₂ O.
	mm.	cm.	cm.	feet.
Medium sand..	.5 —.25	2.2 2.1	29.9	.98
Fine sand.....	.25 —.1	4.0 3.9	54.4	1.78
Very fine sand..	.1 —.05	9.1 9.8	123.7	4.05
Silt.....	.05 —.005	22.4 21.3	304.5	9.99
Clay....	.005 —	60.1 55.9	817.0	26.80

COMPARISON OF THE CALCULATED AND OBSERVED VALUES OF THE CAPIL- LARY LIFTS OF THE SOIL CONSTITUENTS.

To calculate the effective diameter of the capillary pores of the soil we used

³ Hilgard, E. W., Soils, p. 203.

the following formula derived by King,⁴

$$D = \sqrt{\frac{.2623d^2}{II}}$$

in which D = effective diameter of soil pore and d = diameter of soil grain.

We then calculated the limits between which the capillary lift of each soil constituent should fall. We used the formula,

$$H = \frac{DSg}{4T}$$

in which

- H = capillary lift in centimeters.
- T = surface tension of water in dynes per linear centimeter = 75 dynes.
- D = effective diameter of soil pore.
- S = specific gravity of water = 1.
- g = 980 dynes.

In making these calculations we assumed that the soil grains have the attraction of glass for water, and that the triangular pores of the soil are capable of lifting water to the same height as circular pores of equivalent cross section.

TABLE IV.—Comparison of the Calculated and Observed Capillary Lifts of the Soil Constituents.

Soil Constituents.	Diameter of Grains.	Calculated Limits of Capillary Lift H_2O .		Observed Capillary Lifts H_2O .
	<i>mm.</i>	<i>cm.</i>		<i>cm.</i>
Medium sand..	.5 —.65	21.2—	42.4	29.9
Fine sand.....	.25 —.1	42.4—	105.9	54.4
Very fine sand..	.1 —.05	105.9—	211.8	123.7
Silt.....	.05 —.005	211.8—	2118.0	304.5
Clay.....	.005—	2118.0—		817.0

Conclusion.—(1) The finer the grains of a soil constituent, the greater is the capillary lift of the constituent. (2)

The observed capillary lift falls between the calculated limits in every case except that of clay. The case of clay is considered in III.

III. THE PRESSURE OF THE ATMOSPHERE LIMITS THE CAPILLARY LIFT WHICH CAN BE OBTAINED BY THIS METHOD.

When we began these experiments we believed that we might be able to observe a capillary lift of over 10 meters or 34 feet; that is, a greater lift than the length of water column supported by a pressure of one atmosphere. This we have been unable to do.

We have made many experiments with soils, the calculated lifts of which are greater than 10 meters, but the greatest lift we have observed is 30.1 feet. In the work described in Part II, the observed capillary lift of the soil constituents fell between the calculated limits in all cases except that of clay. The lowest calculated lift for clay is 2,118 cm. or about 70 feet, but the observed lift was only 817 cm. or about 26.8 feet.

From these results we concluded that, with the apparatus arranged as above, the pressure of the atmosphere limits the capillary lift which can be observed.

To test this conclusion we decided to measure the capillary lifts produced under pressures equal to, greater than and less than one atmosphere, by a soil the calculated lift of which is greater than the length of the water column supported by one atmosphere. We reasoned that, if it is the pressure of the atmosphere which limits the capillary lift observed, then with a pressure greater than one atmosphere we should obtain a greater lift, and with a pressure less than one atmosphere we should obtain a less lift, than we obtain when the pressure is one atmosphere.

⁴ King, F. H., *Physics of Agriculture*, p. 164.

The results obtained are shown in Table V.

TABLE V.—*The Capillary Lift produced by the Soil Constituent, Clay, under Pressures Equal to, Greater than and Less than, One Atmosphere.*

	Pressure Hg. cm.	Lift Hg. cm.
One atmosphere	{ 76	60.1
	{ 76	55.9
Greater than one atmosphere	{ 99.5.....	86.3
	{ 108.2.....	78.4
Less than one atmosphere	{ 61.3.....	56.3
	{ 56.3.....	44.3

Conclusions.—The results indicate: (1) that the capillary lift observed is limited by the pressure of the atmosphere; (2) that therefore the maximum lift observed by this method under a pressure of one atmosphere cannot exceed 10 meters or 34 feet.

IV. CAN SOILS LIFT WATER TO A GREATER HEIGHT THAN 10 METERS OR 34 FEET?

By the method described above, the maximum *observed* capillary lift has been increased from 10.17 feet to 30.1 feet. This is nearly the height to which water is raised by the pressure of one atmosphere. This brings up the question, “Can soils lift water to heights greater than 10 meters or 34 feet?” This question can be answered only by further experiment.

There are two ways, at least, in which water might be raised by soils to heights greater than 10 meters, namely, by surface tension in conjunction with the stability of water under tension, and by osmosis.

Surface Tension and the Stability of Water under Tension.—The lowest calculated capillary lift of clay is 2,118 cm. or 70 feet, and the calculated lift is greater the finer the grains of the clay.

If, then, water can be raised by tensile stress, as seems probable from the work of Dixon and Joly⁵ and that of Askenasy, it is possible that water can be raised by soils to heights greater than 10 meters, or 34 feet, by surface tension and tensile stress.

Osmosis.—In recent work carried out in this laboratory it has been shown:⁶ (1) that one clay subsoil, at least, acts as a semipermeable membrane; (2) that its efficiency as a semipermeable membrane increases with its depth; and (3) that water moves through this subsoil towards a soil solution.

In more recent work, the results of which have just been sent to the press, it has been shown that the finer the grains of soil in a soil constituent the greater is the efficiency of the soil constituent as a semipermeable membrane.

If, under field conditions, subsoils act as semipermeable membranes, and if the concentration of the soil solutions in the upper layers of soil is greater than that of the soil solutions in the lower layers of soil, it is possible that soils may raise water to heights greater than 10 meters by osmotic pressure.

SUMMARY.

I. The new method of measuring the capillary lift of soils has enabled us to measure a capillary lift approximately three times as great as the maximum lift measured by the old method. The time required for the experiment was 20 hours instead of 18 months.

The advantages of this method are: (1) the moisture moves through a wet

⁵ Proc. Roy. Soc., Vol. LVII, No. 340 (1894). Also Annals of Bot., Vol. VIII; and Phil. Trans., Vol. 186, 1895 (B).

⁶ Lynde and Bates, Osmosis in Soils. Journal of Physical Chemistry, Vol. 16, No. 9, p. 766 (1912), and Proc. Am. Soc. of Agronomy, Vol. 4, p. 108, 1912.

soil; (2) the moisture passes through a very short column of the wet soil and thus friction is reduced to a minimum; (3) the time required to make an experiment is reduced from months to hours; (4) the final measurement is a fairly accurate measure of the capillary lift of the soil.

II. (1) The finer the grains of a soil constituent the greater is the capillary lift of the constituent.

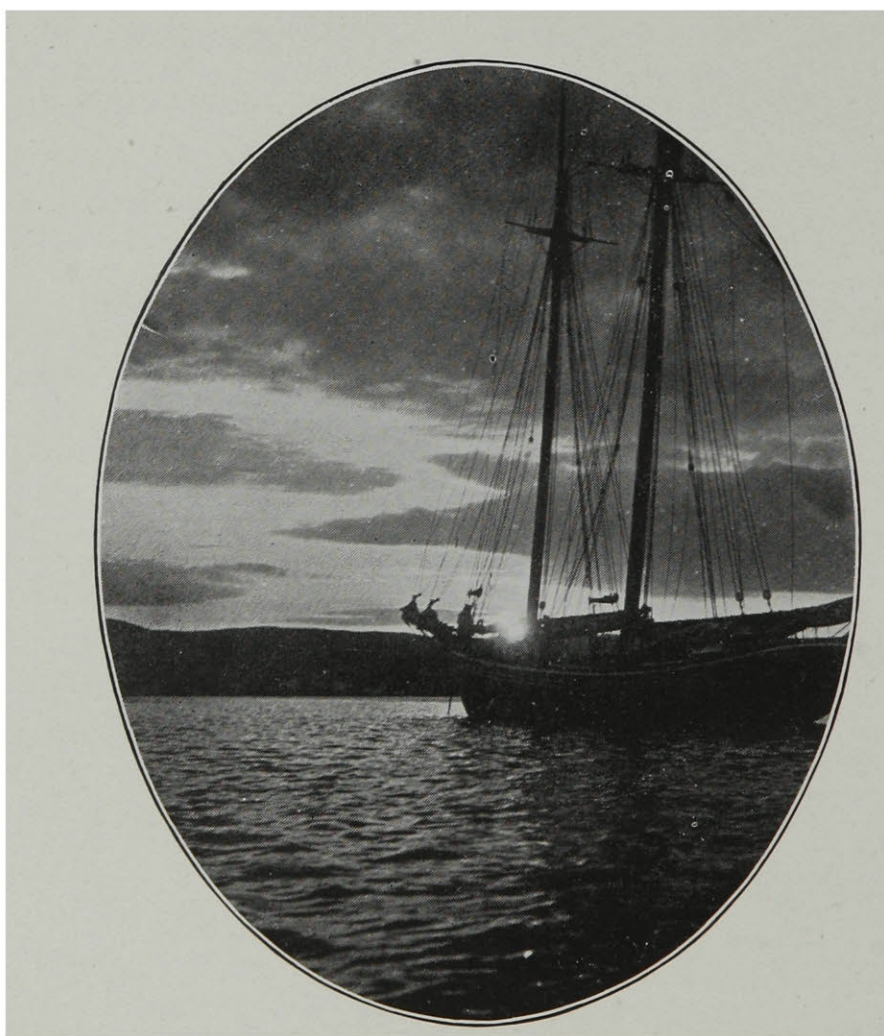
(2) The observed capillary lifts of the

soil constituents fall between the calculated limits in every case except that of clay.

III. (1) The capillary lift observed is limited by the pressure of the atmosphere.

(2) Therefore the maximum lift observed by this method under a pressure of one atmosphere cannot exceed 10 meters or 34 feet.

IV. Can soils lift water to heights greater than 10 meters or 34 feet?



On the Labrador Coast.

Rural Sociology at the Massachusetts Agricultural College.

By F. W. READ, Amherst.

(Mr. Read has kindly prepared this article in order that we might be able to convey to our readers an idea of the extent to which this new science has been developed at Amherst, which is the recognized centre of such teaching and investigation in America. ED.)



COURSES in Rural Sociology, as taught at the Massachusetts Agricultural College, are conducted with the ultimate object of preparing the student for practical vocational work. There is probably no more critical problem in America to-day than the so-called "rural problem" which is to develop and maintain on our farms a civilization in full harmony with the best American ideals. This is the underlying problem of country life, and rural sociological studies here are an attempt to solve it.

Our fundamental course in rural sociology is called "the rural community." It is a broad survey of the field and treats of basic principles and problems. The movement of the rural population to the city is considered, as well as the causes for the same. The actual social conditions and the life of the rural people are studied. A description of the various social institutions of the rural community, as the Grange, agricultural clubs, and so on, is given. An analysis of the fundamental problems of rural life and the means of developing and redirecting the life of the rural community is also undertaken.

In connection with this course, as much practical work as possible is given. The surrounding rural communities are our laboratory. Agricultural surveys are conducted by the students with the end in view of remedy-

ing existing deficiencies. Boys' clubs are organized and led by students, and it is the plan in the future to start co-operative societies which are to be conducted, as far as it is advisable, by students.

The "Literature of rural life" is our next course, and it consists of a critical and appreciative study of writers, both in prose and poetry, who have interpreted nature from the viewpoint of the lover of country life. It is a study of those who have idealized agriculture, horticulture, and other rural pursuits, together with those who have upheld as an ideal the development of a rural environment in cities.

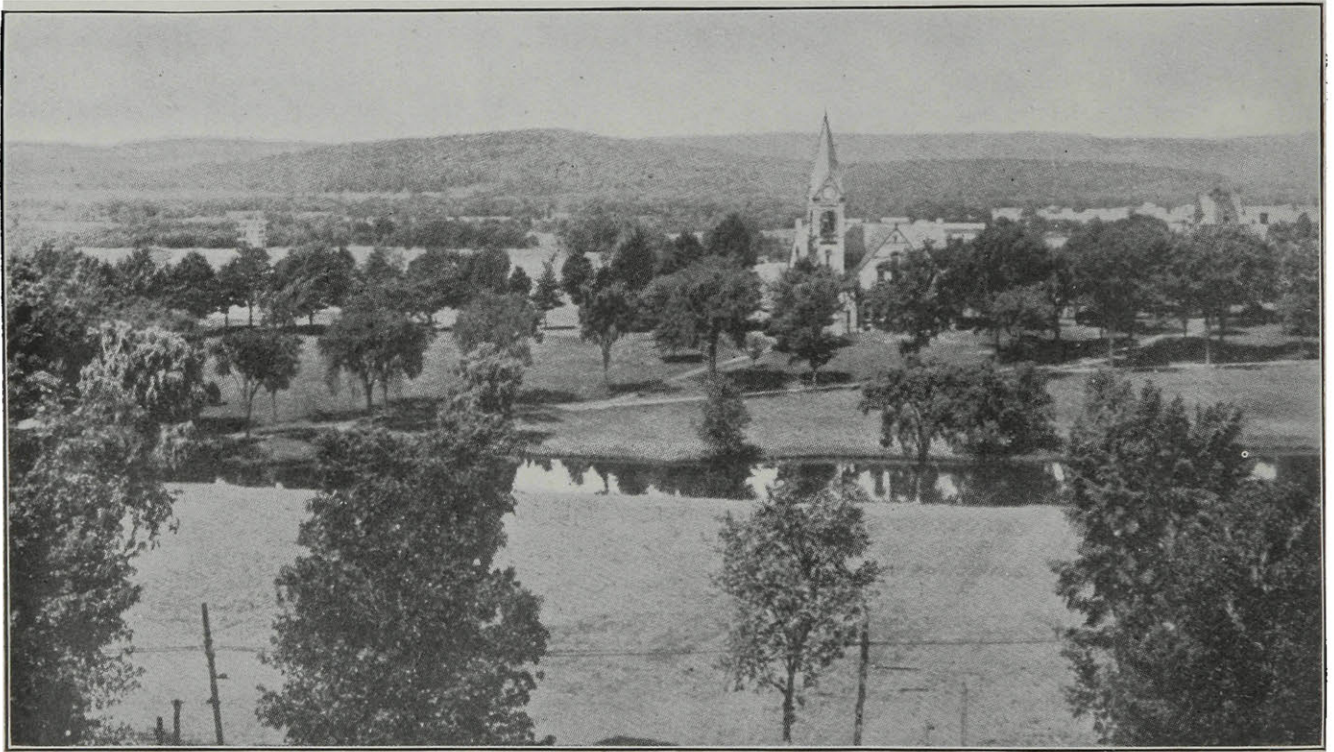
"Rural law" is also considered, and this course covers such points as land titles, public roads, rights incident to ownership of live stock, contracts, commercial paper, and distinctions between real and personal property.

"The social conditions of the rural people" are of sufficient importance to be considered separately. The composition of the rural population is studied with care, with the end in view of enabling us the better to handle or meet the needs of the people. Vital statistics, diseases, accidents, and dependency, with attendant poor-house problems,—all these are here treated. In addition, special emphasis is laid upon conditions of temperance, of sexual morality and family integrity. Child labor in the country is also a

problem which engages our attention. The position of the woman and her work is a matter of much importance in rural sociological studies. In this course we also consider the relation of employer to employee, the standard of living in the rural community, the size of the family, the cultural ideals, community consciousness and activity, standards of business conduct and of political ethics.

Co-operation is a matter which is commanding more and more attention

endeavor are also treated. In this course the various forms of co-operation are viewed in their industrial, intellectual, and moral aspects. The influence that co-operation has on the farmer's entire life is great, and we study its effect on his individualism, conservatism, thrift, contentment and in agrarian legislation, scientific agriculture and farm labor. The relation of co-operation to neighborhood life, to community pride and loyalty, to further associated effort, to class stability, solidarity and status,



A Part of the Campus at Amherst.

each year, especially in the field of agriculture. Its importance can hardly be over-estimated; its growth has been rapid. The sociological aspects of co-operation among farmers, then, should always be considered in a well-shaped group of courses. A brief historical sketch of the origin, extent, and success of co-operation among farmers in the various European countries and in the United States is given here. The personal qualities and social conditions necessary to successful co-operative

also engage the attention. Co-operation demands a different type of leadership—the demands of this new type should be studied. The relation of co-operation to socialism and the competitive system is still another phase of this problem.

“Rural institutions” of all kinds have always been an important factor in the development of rural life. The United States Department of Agriculture recognizes this fact, and has recently created a new division dealing with this phase of country life. At this college

we make a study of the organized agencies by which rural communities carry on their various forms of associated life. It is more particularly a study of the ways by which the domestic, economic, cultural, religious and political institutions contribute to rural betterment. Special attention is given to the rural family and the rural church.

"The state and the farmer" is still another phase of the work at the Massachusetts Agricultural College in rural sociology. This course includes a general survey of political organizations and movements among farmers in foreign countries and their influence in shaping agrarian legislation as well as political movements among farmers of the United States. The different forces which exist for the sole purpose of helping the farmer, as the United States Department of Agriculture, State Boards of Agriculture, Agricultural Colleges and Experimental Stations, as well as the parcels post, the postal system, and railway commissions, are here treated thoroughly. Their relation to rural welfare is important.

"The social psychology of rural life" forms a very absorbing topic for further study. The characteristics of the rural mind are different from those of the urban mind, due to hereditary and environmental influences. The psychological effects of isolation are studied. The psychological effect which intimate contact with nature has to self-control, self-expression, sympathy, service and leadership, constitutes an important part of the psychology of rural life.

The character of rural discussion and public opinion and their relation to class feeling and organization are studied in this course.

"Farmers' organizations"—their history, purposes and achievements, are considered of sufficient importance to deserve special study. The Grange, the Farmers' Union, farmers' clubs, village improvement associations, boys' clubs, and the like, are treated in this course. The scope of all kinds of associations formed about some farm product or special farm interest, as, for instance, dairying, horticulture, forestry or stock breeding, are considered. Their effect on "better farming, better business, and better living" is worthy of notice, as well as their influence in forming a class consciousness.

Our last regular course treats of the "Sociological aspects of current agricultural questions." Man to man discussions on matters before the public relating to the farmer are held. Credit facilities, tenancy and ownership, intensive versus extensive farming, and agricultural labor are considered.

In addition to the courses mentioned a seminar is offered for advanced students. Here special problems are pursued.

The field of work open to students who have followed out this line of study is large and offers unbounded opportunities for leadership and service in rural communities. Without the help of strong leaders the great rural problem will never be solved. The agricultural colleges should be the training ground.

"Through Autumn's woodlands brown—
When from the tall trees scatter down
Ripe acorns fringed with rime."

THE MACDONALD COLLEGE MAGAZINE.

"Mastery for Service."

Published by the Students.

Vol. IV.

OCTOBER-NOVEMBER, 1913.

No. 1.

Magazine Staff.

Editorial:—

Editor-in-Chief—B. T. Reed, Agr., '14

Assistant Editors:—

H. J. M. Fiske, Agr., '14.

Miss B. Pomfret, Teachers, '14.

Miss E. Robinson, H. Sci., '15.

Faculty—Professor Klinck.

Business:—

Business Manager—T. F. Ritchie.

Ass't. Business Managers—A. G. Taylor,
Miss Lawson, Miss Planche.

Advertising Manager—V. B. Durling.

Sub-Editors:—

Athletics—L. R. Jones, Miss Travers.

Agronomy—W. Newton.

Alumni—R. Husk, Miss de Villiers, Miss
O'Connor.

Artist—Miss Egg.

Horticulture—F. Chute.

Humorists—Chas. Russell, Miss Aylen, Miss
Allen.

Live Stock and Dairying—W. L. MacFarlane.

Locals—O. Schafheitlin, Miss Bardorf, Miss
B. Macfarlane.

Poultry—A. G. Taylor

EDITORIAL.

The Freshmen.

Not the least of the circumstances which would indicate the beginning of a successful college year is the presence among us of the largest freshmen classes in all the schools which the College has yet had. The class of Agriculture 1917 is further distinguished by being the first year to possess members belonging to the fair sex.

The MAGAZINE, on behalf of the old students, extends a cordial welcome to the newcomers.

* * *

Getting the Most out of College.

How to get the most out of college is the problem that the new student is confronted with, and one to which many never give a serious thought. The young man or woman who is fortunate enough to have

the way opened up that he or she may take advantage of college opportunities should not lose sight of the obligations owed to society at large. The place before filled by them has to be filled or undertaken by those left behind, usually making more work and care for those at home.

Students are, for a period, non-producers in the economic world, being supported by their own previous earnings, directly from home or otherwise. We, at college, should realize the debt we owe to the laborer on the railroad, in the factory or on the farm, which we do not often think of. It is because of this social obligation we should make the best use of our time and money, in order that we may be able by our after-work to better the conditions of those who have not had the same chances as

we enjoy. How many students give in return very much which will brighten the steady routine of the home life?

Every student on entering college should remember what he or she is there for, namely, to fit themselves for "mastery for service," that the money invested in education will on graduation be redeemed many fold, that the efficiency of the person will be so increased that the economic worth of the individual to society will be greater and the output more than compensate the apparently unfruitful years spent at college. To get the most out of college, then, it is not only necessary to do one's work first and foremost; to get well acquainted with the professors and teachers, who are the students' best friends and always have the best interests of the students uppermost in their minds, but also to take advantage of college activities, and to especially associate one's self in those which appeal to one most. There is room for everybody to do their share of making each activity do the maximum amount of good. Each will develop a different side of the individual.

The athletic field, the gymnasium floor, the swimming tank, and the college rink, furnish plenty of opportunity to keep your body in good physical trim—a feature which is all-important for health. Exercise is an essential—the form is of your choosing. Everyone cannot be on the first team or on the floor or field at once, but there is a time for everyone, so seize your opportunity.

The MAGAZINE furnishes abundant opportunity for those with literary tastes. Again, in the literary societies one learns to face one's fellow students, which is harder than meeting strange faces. Take advantage here also and improve your ability to think on your feet.

In the Y.M.C.A. we have one of the factors which helps in keeping our lives pure.

In our residential life, everyone is on his honor to do the square thing at all times. The gentlemen should be true guardians of the ladies. Each building has its own governing body, in the Women's Court of Honor, and the Men's Residence Committee. Life in residence can be ideal, if everyone joins in to make it so.

Let your presence be felt at college social functions. Do not miss them. They are planned for your amusement. Be congenial and smile your thanks.

Let your voice be heard on all fields of battle, leading the college or class yell, or soaring in the college songs.

Let your College Spirit be alive, and make it manifest on all proper occasions.

Remember that the Students' Council will look after your best interests, as it is the government of the students, by the students, and for *all* the students.

Education, above all, stands for three things:—1. Instruction—the knowledge that it gives you. 2. Liberation—the power that you receive to use your own faculties. 3. Consecration—the light of something to live for, the welfare of your fellow men whom to serve is your highest ideal. Education means living so that you will grow. We live to learn. We should always be in the process. New forces are drawn out of us, new knowledge is added, giving us power to become efficient in "Mastery for service."

* * *

Student Self-Government.

It would be well for all Macdonald students to bear in mind that they are members of one of the few co-educational institutions in the country. As Dean Sinclair used often to say, "the

idea is a new one and its working out is being watched from all quarters." The success of the idea up to the present is due to a wise administration, which has placed the regulation of student conduct largely in students' hands, and to the loyal support which the students themselves have given to their respective governing committees. It may at times seem strange to new students to be governed by their fellows, but there are many reasons which prove it to be the best way. We would particularly urge on the men students the advisability of closely observing any regulations made by the authorities or the Residence Committees governing our relations with the friends across the campus. Serious curtailments of privileges have in past years resulted from the disregard of such regulations. It is the desire of the authorities to allow free inter-communication, but if common-sense rules will be broken severe measures are bound to result.

* * *

Students' Activities.

We print in this issue short articles descriptive of the organization and aims of the various students' societies. It would be well for the new students to read these and profit by the advice given therein. Much of the best of one's college experience is lost by the imperfect appreciation of the value of these organizations. What is said of the MAGAZINE below is alike true of the athletic and literary societies and the religious associations. To get the most *out* of them one must put something of his own effort *into* them.

* * *

The Magazine.

It is becoming increasingly difficult to obtain the services of busy men and women in the interests of our college magazine. This is not to be wondered at when one con-

siders the situation. There are dozens of technical journals related to the farming, teaching and housekeeping professions, all of which are paying good rates for the work of experts and investigators in the several fields. A college magazine cannot afford to do this, even if such a practice were advisable. Then too, the constituency served by a college magazine is quite limited to one class, and is small in numbers. Moreover, it is by no means a suitable medium for the publication of many types of articles. A third reason why perhaps a college magazine should not strive to present the latest in technical articles is that in so doing students are prevented from making use of the pages of their magazine for the publication of their own efforts. The securing of two or three articles from members of the staff or others offers practically no experience to the student. He must use his own knowledge and ability if good is to result from his connection with the paper.

We do not wish to create the impression that the services of contributors other than students are not wanted and are not appreciated. The MACDONALD COLLEGE MAGAZINE, at any rate, would be a small affair indeed were it not for them. What we do want to impress on the students is the advisability of making use of these pages for their own work. The MAGAZINE is yours. Why not make use of it?

* * *

Correspondence.

The editors invite correspondence on any subject affecting all or a section of the students. There are frequently conditions arising which could be remedied by a word written or spoken. New suggestions or commendation of existing methods are welcome.

THE MAGAZINE has a standing offer of money prizes to students who wish to compete in writing short stories, or taking snapshots for the MAGAZINE. For the best short story \$3.00 is offered; for the second best story \$2.00; and for the best collection of three snapshots taken by a student \$1.00 is offered as a prize. Judging will be done by a competent person, and awards made accordingly. All essays and pictures should be handed in to the editor or a member of the board.

* * *

THE SAWYER-MASSEY COMPETITION.

The Sawyer-Massey Company, Limited, are firm believers in a crop which has been too often overlooked in Canada—clover. Statistics prove that it is one of the most profitable crops that can be grown in crop rotation; yet, so far the Canadian farmer has made comparatively little use of it.

To stimulate interest in clover growing a few months ago the Sawyer-Massey Company, Limited, organized a competition among the students of the University of Ottawa, and offered a cash prize for the best essay on "The Benefits of Raising Clover to the Canadian

Farmer." The result was gratifying, and six excellent essays were handed in. The task of judging was difficult, but the first prize was finally awarded to B. T. Reed, of the University of Ottawa, while Honorarium was given to G. C. Holm, of Sawyerville, P.Q.; R. E. Huston, P.Q.; C. H. Hodge, C. P.Q.; J. H. McCormick, McGill College; and A. G. Taylor, Dalhousie P.Q.

The competition was so successful from every point of view that it is likely will be repeated yearly on different subjects dealing with things of value to Canadian agriculture.

EXCHANGES.

We beg to acknowledge the following:—The O. A. C. Review, The University Monthly, The Sheaf, The M. S. University Magazine, The Laborer, The University of Ottawa Review, Argosy, The Alumnus, The Stanley College Magazine, The King's Record, The Cornell Countryman, The College Signal. These were to be sent in the Spring after our May number had been issued. No exchanges have yet been received this fall.

COLLEGE YELL.

Failt ye! Failt ye!
 Failt ye! Clan Donald!
 We are a chip of Old McGill,
 And call ourselves Macdonald.

Students Council Offers Prizes for College Songs.

The Students' Council offers three prizes of \$5, \$3, and \$2, respectively, for words suitable for setting to music as College Songs, and further awards of \$1 for each set of words which may be accepted for this purpose.

CONDITIONS.

1.—The Competition is open to past or present students of Macdonald College. Past students must be subscribers to the MACDONALD COLLEGE MAGAZINE.

2.—Any student may send in several entries.

3.—The subjects for songs are at the choice of competitors, and may be of

collegiate spirit, humorous, or other suitable character.

4.—The Students' Council reserves the right to revise any composition selected; to withhold any prize if no composition is considered of sufficient merit; or to readjust the terms of the competition if necessary.

5.—All compositions must be received by Miss Tait or Mr. Shafheitlin, on or before December 1, 1913.

Ex-students may send in words up to Dec. 15, 1913.

JOHN C. MOYNAN,
Secretary.



THE MAGAZINE STAFF.

Front Row—Ritchie, Fiske, Furling. Second Row—Miss Bardorf, Miss Robinson, Feed, Miss Pomfret, Miss de Villiers. Third Row—Jones, Misses Travers, Lawson, Egg, Planche, Aylen, Allen, O'Connor, Macfarlane, Prof. Klinck. Fourth Row—Taylor, Husk, Schafheitlin, Newton, Macfarlane, Mitchell, Russel, McCormack.



W. NEWTON, EDITOR.

Clovers, their Value as Soil Improvers.

By G. MOE, Agriculture, '14.



CLOVERS are very properly ranked among farm crops as soil improvers. The improvement effected is a physical and chemical process, as the extensive root system of the clover plant not only penetrates deeply into the soil, aerating and increasing its friability, but is also the host of the bacteria which have the ability to fixate the nitrogen of the soil and atmosphere. The resulting effect of this double action on the part of the clover plant is, that not only has the plant food of the soil been rendered more available, but positive additions have been made to the fertility of the land.

Mechanically the soil is improved by the shade given to the land and the extensive ramifying power of the root system. The heavy crop shades the surface of the soil, rendering it more friable and improving its texture. The long tap roots, descending to a depth of four feet or more, opening up channels through

the subsoil, leave, on their decay, passages which carry off the water from the upper to the lower layers of the ground. The lateral roots spread out from the tap roots in an outward and downward direction, their tiny rootlets penetrating into the crevices and around rocks, filling the soil with a dense mass of roots. Careful estimates have shown that fully one-half the weight of the clover plant is below the ground. On the decay of the roots a dense amount of vegetable matter is left in the land which greatly increases its water holding capacity. In a dry season and in open soils the benefit of this condition is very apparent, as the following crop has a reserve moisture supply which enables it to pass through the dry season successfully.

Chemically, clovers not only improve the soil by direct additions of nitrogen, but being gross feeders on the other mineral elements, these are liberated on the death of the plant for the use of the following crop. The clover plant being

a deep feeder, raises from the subsoil to the surface an abundance of mineral plant food, and while this enrichment is made at the expense of the fertility of the subsoil, yet its mineral supply is practically inexhaustible. For intensive farming or the raising of exceptionally large crops the great want is an abundant and cheap supply of ammonia and the nitrates. Dr. Voelcher states that there is a strong presumptive evidence that the nitrogen which exists in the shape of ammonia and nitric acid, and descending with the rain in these combinations, satisfies, under ordinary circumstances, the requirements of the clover crop. This crop causes a large accumulation of nitrogenous matters which are gradually changed in the soil into nitrates. Thus, clover not only provides nitrogenous food but also delivers this food as nitrates gradually and continuously, and with more certainty of a good result than if such food were applied to the land in the form of a nitrogenous top-dressing. Dr. Kedzie says that either clover hay or sod contains enough phosphoric acid for more than double an average crop, enough nitrogen for more than four average crops, and potash for more than six average crops of wheat. A ton of rich stable-manure may contain ten pounds each of nitrogen and phosphoric acid and eight pounds of potash. A crop of clover equal to two tons of hay, when

plowed under, will furnish more ammonia to the soil than twenty tons of straw-made manure, fresh and wet, or twelve tons of ordinary barn-yard manure. These facts would indicate the value of clover as a green manure and the necessity of including it in a good rotation.

It is essential that the manure from the feeding of clover be returned to the land. "All plants," says Leibig, "without exception, exhaust the soil, each of them in its own way, of the conditions for their reproduction." The clover plant makes a heavy drain on the mineral elements of the soil, and if these were not returned, the soil would be depleted in fertility. As animals assimilate only from eight to ten per cent. of the nitrogen in clover hay, the returning of the manure to the land makes for permanent enrichment, and no loss of mineral plant food is sustained.

The foregoing facts would indicate the valuable place that clovers should occupy in modern farming practice. Its value as a green manure and ability to thrive and yield good returns on comparatively poor land, makes it that much could be done with an intelligent use of this crop to arrest and prevent the sterile tendencies of long cropped soils. Well has it been styled the corner-stone of agriculture; for a crop that enriches the soil as well as giving an abundant yield is an essential in modern farming.

"Hail rural views ! life's pure unmingled sweets ;
Long winding walks and ever calm retreats !
Where still succeeding charms of various kind
Infuse a balmy temperance of mind."

Notes on Alfalfa.

By L. C. RAYMOND, '12, Cereal Department.



QUEBEC needs a hardy alfalfa. Experiments both at the College and also throughout the country have proven conclusively that hardiness must be one of the chief objects sought in an alfalfa for this Province. While the preparation of the land, method of seeding, choice of seed, and other factors enter in to make alfalfa growing a success, yet hardiness is probably the most outstanding requirement. This article aims to deal more particularly with that phase.

Of the commonly grown alfalfas there are three main groups:—Sativa, Media, and Falcata. The former of these is an upright bushy plant with a comparatively fine stem and a blue flower. The latter is of a decidedly different type. It has a decumbent stem, which has a slight tendency to be wiry. The leaf is, as a rule, much finer and smaller than that of the Sativa. The flower of the pure Falcata is always yellow in color. As a result of a direct cross between these two opposite types there has been produced a type known as Media, or probably more commonly called Variegated Alfalfa. The latter name is very applicable on account of the great varia-

tion in the color of the flower. Marked variation is also noticeable in the shape of leaf and manner of carrying the stem. Considered in regard to hardiness the Falcata is easily first, followed by Media and Sativa in the order given.

The decumbent habit of the Falcata type makes it of economic use only as a pasture, while the other two are desirable for hay or to cut as a green feed.

Looking to the discovery and propagation of alfalfas that would be adapted

to different purposes, and that are at the same time hardy, the Cereal Department has made a collection of different strains from practically all over the world. These have been obtained through the kindness of the Foreign Seed and Plant Introduction section of the United States Department of Agriculture, numerous State Ex-

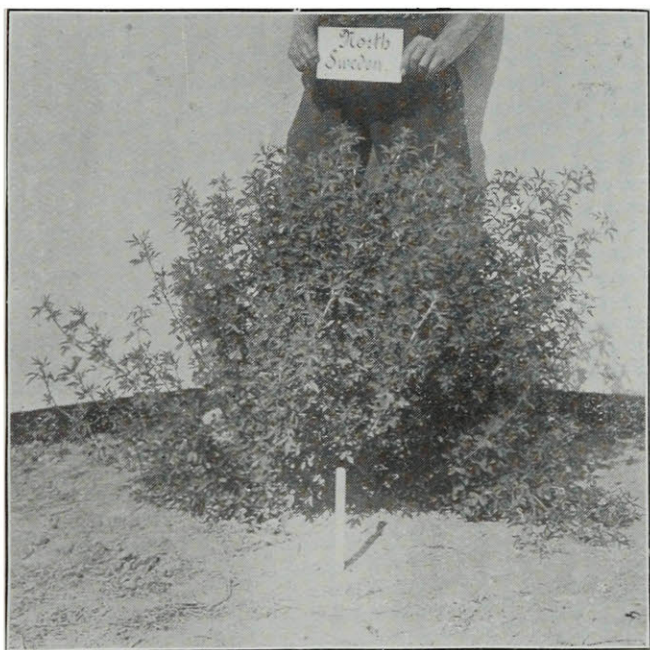


Fig. I.—A Variegated Alfalfa.

periment Stations, and other sources.

Considering hardiness again as our chief object it will readily be seen that our first requisite was a sufficiently severe winter to kill off the weaker types. These conditions were met very nicely in the winter of 1912-13, when the whole field was covered for about two months with several inches of ice. The following spring showed some very interesting results which we will briefly attempt to

analyze. Probably the most outstanding feature in this alfalfa range is the hardiness of the Grimm variety. This is a variegated sort originated by Lyman, of Minnesota. Rows of this sort came through almost perfectly in every case even where rows of another sort, planted just a few feet away, would be almost entirely killed out. Reference to Figure III. shows the central row marked Lyman—which is the Grimm sort—compared with other commercial

variation. These few facts in the alfalfa seed trade only serve to emphasize in a general way, the need for more co-operation between our experiment stations and our seed houses. Even a short time spent on the alfalfa range at the College would convince any seedsman of the importance of obtaining northern grown and hardy alfalfa seed.

Among all of the alfalfas that have been tested at the College the hardest



Fig. II—Alfalfa or the Falcata Type.

samples on either side. It should be noted as well that not only is the pure Grimm hardy but as well any sort which has any trace of Grimm blood in its ancestry.

Another interesting point that last winter brought out was the great variation in hardiness between samples supplied by our seedsmen. Not only did they vary in hardiness all the way from complete killing out to practically a full stand, but the type of plant shows great

variation. These few facts in the alfalfa seed trade only serve to emphasize in a general way, the need for more co-operation between our experiment stations and our seed houses. Even a short time spent on the alfalfa range at the College would convince any seedsman of the importance of obtaining northern grown and hardy alfalfa seed. Among all of the alfalfas that have been tested at the College the hardest sort yet found is one belonging to the Falcata group. This sort is distinctly decumbent in habit of growth. The crown development is very slight. Outside of hardiness, however, the main feature of this sort is its ability to produce underground root stocks. After being planted just one year many of the plants had run over a radius of some fifteen inches, forming a dense, soft mat which should afford excellent pasturage. This habit, coupled with its ex-

treme hardiness, should make this variety a valuable one.

The winter of 1912-13 afforded us also a comparison between alfalfa and clover as to their relative hardiness. Planted immediately beside the alfalfa range referred to was another range of the different commercial samples of Common

ranges lay side by side and were subject to exactly similar conditions. The clover was killed out so badly that it had to be broken up, while the alfalfa came through in sufficiently good condition to be saved for a crop.

Here, then, we have quite conclusive evidence that if a hardy variety of



Fig. III.—The central row marked Lyman is of the Grimm strain. Note the comparative hardness with the rows immediately alongside.

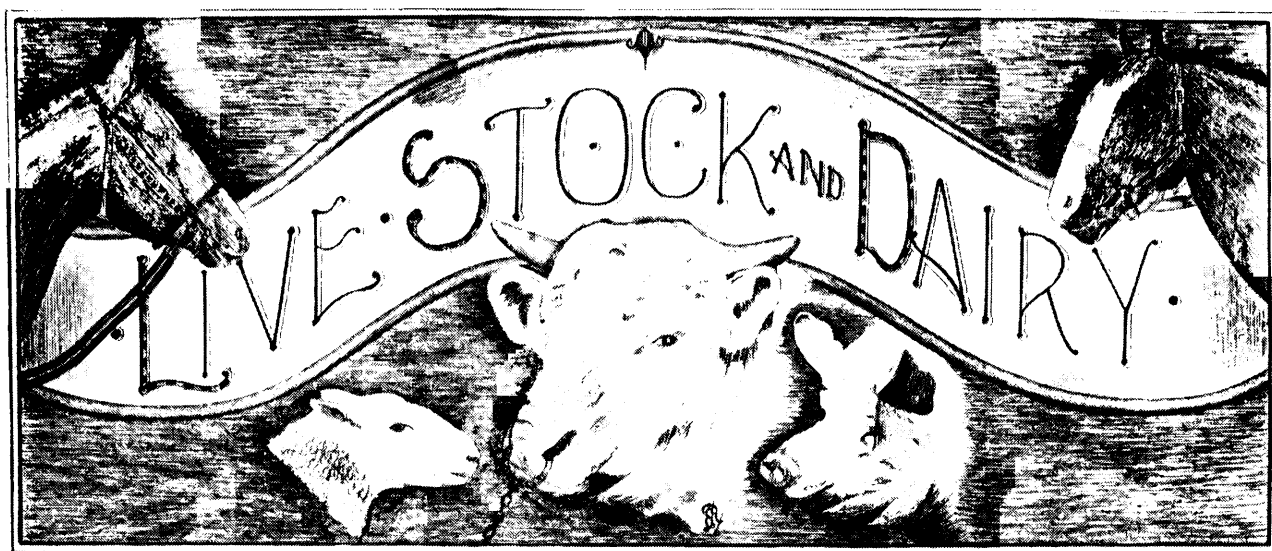
Red, Mammoth Red and Alsike clovers.

From the whole clover range there was over a dozen and a half plants which survived the severe conditions of the past winter. In another part of the Department's land we had exactly the same experience where alfalfa and clover were sown broadcast. The two

alfalfa be chosen it is decidedly more hardy than is Red Clover. This important fact, coupled with its high producing capacity in fodder, makes it rather remarkable that up to the present time alfalfa has not been cultivated to a greater extent throughout the Province of Quebec.

“Money is like muck, not good except to be spread.”—Bacon.

“Better for man
Were he and Nature more familiar
friends.”



W. L. MACFARLANE, EDITOR.

Extension Work in Animal Husbandry Department.

WITH the object of helping the sheep industry of the Province of Quebec to assume the prominent place it undoubtedly should occupy, the Department of Animal Husbandry has decided on the following plan, viz.: the thirty head of Cheviots that were imported last spring will be divided into three flocks of ten head each. Nine ewes and one ram will be kept on the College farm, and two flocks of the same number will be placed on approved farms in the province. These sheep are to be managed, according to the directions of the department, by the farmer for a period of three years, and during that time he must keep a close account of all feed used during winter and summer, and also an account of total wool production. During these three years, or at the end of this time, the farmer must return to the Department twelve ewes and two rams as their share of the venture, while the balance of the increase is the property of the farmer to dispose of as he sees fit.

The lambs returned to the College will likely be kept over the first winter and used in judging classes, feeding experiments, etc.; then, as yearlings, they will be placed out on other approved farms and the whole process gone over once more. This plan will accomplish a two-fold end, namely, it will show whether the profits in sheep breeding are large or small, and also largely increase the numbers of pure-bred sheep available to the farmers for foundation stock.

In addition to the Cheviots mentioned, choice flocks of Shropshires, Oxfords, Southdowns and Leicesters are kept on the College farm; in fact, reliable authorities have made the statement that the sheep flocks, as they now stand, are the best in Canada for experimental purposes.

Through the generosity of Mr. Drummond, of Beaconsfield, Que., the Southdown flock has been strengthened by the addition of twenty ewes and two rams, presented entirely free of cost to the Animal Husbandry Department. As most of us know, the Huntleywood

Farm Southdowns have an international reputation in America as the red ribbon winners in almost any company, and need no further words of commendation from us.

The other breeds mentioned are equally as good as the Southdowns, and will be used to produce breeding stock for the farmers, and also some experimental work in crossing the various pure breeds for mutton production.

This is a line of work that has been rather neglected in Canada up to the present time, and the desire is to secure

some data on the subject. The crossing of some of the pure breeds, like Cheviot and Leicester, in Scotland, produces some of their best market lambs, and some interesting results may be expected here.

On the whole the sheep extension scheme looks good to us from the outside, and if things pan out successfully, the Animal Husbandry Department of Macdonald College should be a very powerful factor indeed in the fostering and furtherance of the sheep industry in the Province of Quebec.



Cheviot Sheep, imported 1913.

Live Stock Notes.

IMPORTATIONS OF STOCK.



EARLY in the past spring, a member of the Animal Husbandry Department of Macdonald College made a trip to Great Britain and purchased some choice Ayrshires, milking Shorthorns, and Cheviot sheep. This stock will be used for breeding purposes on the farm, and below will be found a brief description of breeding, etc., of the new importation.

The Shorthorns consisted of one male and several fine females, and a brief mention of their pedigrees will show that they are all bred in "the purple."

The senior in point of years is the five year old cow, Tulip 50th. She is of a good useful type.

Duchess Emma 14th is a three year old of the famous Duchess strain, sired by Victor Shapely. This is a right good, thick fleshed one, with lots of quality and character.

Green Leaf 40th, by Renown, a rather famous bull, used in the herd of Hope, of Derby Hall, is a big strong heifer, but of a good milky appearance, and is the largest of the two year olds brought out.

Tulip 58, out of Tulip 40th, is a small but a nice sweet heifer, by Renown; while another by the same bull and the same age is Tulip 60th, a roan heifer, of good form and finish.

The bull, Cressiada's Hope, bred by A. Retson, like the female, is rich in Hope blood, of the most fashionable strains.

It is the intention of the Department to strengthen their already strong herd of milking Shorthorns by using this recent importation as breeding stock on the College farm. The surplus males

will be sold for herd headers to breeders throughout the province, and the females will be kept on the farm. It will, perhaps, be of interest to our readers to know that the demand for genuine milking Shorthorns is far in excess of the supply at the present time, and is likely to continue so for some time.

And it was the desire of the Animal Husbandry Department to try and supply part of this demand for good doing, thick fleshed, heavy-milking Shorthorns, that induced them to make this addition to their herd at the present time. This is a move worthy of commendation, for, as most stockmen know, the milking Shorthorn is selling at very long prices in the old land at the present time, and the supply that is for sale, and eligible for entry into Canada, duty free, is limited.

However, it is not the intention to boom this breed for all they are worth and neglect or run down other breeds; but simply this: there is undoubtedly a demand for something choice in this line, and they are preparing to supply a part at least of it, with first-class goods in a businesslike manner.

The Ayrshires imported were all yearlings, and two year olds of the best breeding, viz., Jean, by Auchencloigh Look Again, is one of the very best breeding and she looks her part too; Toward Point Lofty 3rd, by Toward Point Pearlstone; Dunsine Nancy 7th, by Dunsine Sir Robert, and Borgowes Gowan 5th, by Borgowes Kelly, are a trio of the right good useful kind of heifers; while another of a little different type is Netherhall Kate 26th. This is a big strong dark heifer, strictly Netherhall bred, sired by Netherhall Silver Clink, and rich in the Brownie strain of blood.

At the head of the Ayrshire herd is the right good two year old bull, Netherhall Robin Adair, bred by Thos. Scott. This bull is closely connected to many of the famous show-yard and producing families in Scotland, and is expected to be a valuable addition to the herd. The home-bred young stuff and the matrons of the herd are looking very promising and fit for business at the present time, and taking the herd as a whole they are a bunch fit to gladden the heart of the live stock breeder and fancier.

The herds of Holsteins and French-Canadians kept are of a first-class order, strengthened from time to time by individuals from the best herds in Canada and elsewhere. The most of these are too well known to our readers to make any detailed description of the cows necessary, suffice to say that they are O.K. The bull, however, of the French-Canadians is counted one of the best of the breed, and the junior Holstein bull is of Rag Apple Korndyke breeding, which is about the best in the world and needs no further comment.

Another branch of the farm live stock that has not been mentioned to our readers is the importation of Clydesdale mares that were brought out about a year ago. They will be used as the foundation for a breeding stud on the College farm. This is an entirely new move, as, up to the present time, horse-breeding has been entirely ignored here. A brief outline of their breeding may be interesting to some of us.

The oldest is a five year old, Lucy McPherson, sired by a son of Baron's Pride, Baron St. Clair. Another is a four-year old by Baron Albion; and the other two are three year olds, one sired by Volder, by Revelanta, and the other is by Sir Adrian, by Sir Hugo. These are all well bred mares, as this list of sires shows, and should do well in their new home.

ANIMAL HUSBANDRY CLUB.

A re-organization meeting for the term of 1913-14 was held on Nov. 10th, 1913. In the absence of the Honorary President, Prof. Barton, the Hon. Vice, A. R. Ness, called the meeting to order, and explained the objects of the Club to the new students present. Officers for the ensuing year are: President W. L. MacFarlane; Vice-President, A. G. Taylor; Secretary-Treasurer, George Boyce; Committeemen, H. Biggar and E. Muir. The Club expect to have addresses from several prominent agricultural authorities during the winter term, which should be of benefit to us all.

JUDGING TEAM.

In accordance with the policy of sending a team every second year to Chicago to the judging competition there, Prof. Barton is busily engaged in training the third and fourth year animal men in preparation for the great event. Later on in the term the five men that make the team will be chosen according to merit, and the rest of us will stay at home and wish them success in the game.

Several trips will be taken around to the various breeders of live stock in the district and elsewhere, in order to see the various breeds of stock, and during this time we have visions of our free periods and Saturdays being appropriated to judging. However, that is what we are here for, and everyone is anxious to have all the work that can possibly be covered, as the training is of inestimable value to all of us, whether we are fortunate enough to make the Chicago team or not. It is with anticipation of the most cheerful kind that we view the extra work entailed by these trips, and trust that even if we cannot equal the record of our predecessors at Chicago, we may at least do the best we can and make a record that will be creditable to us and our instructor.



F. CHUTE, EDITOR.

Fruit and Flower Show at St. Catharines.

By H. J. M. FISKE, Agriculture, '14.



THE tenth autumn show of the St. Catharines Horticultural society was held at the Armoury on Sept. 10 and 11. This show of flowers and fruits is unique in that the competitors are expert fruit growers and florists, and after each show the suggestions of the judges are carefully borne in mind in growing and perfecting the display for the following year.

The whole show of flowers showed skill and master workmanship in preparation, as well as taste in color arrangement.

The bloom of the flowers could not well be beaten, and furnished a variation and blending effect unsurpassable. The long separate tables of asters and gladioli gave a splendid feast of color to the eye, and the perfume was balmy to the nostrils of even the unheeding spectator.

The Dominion Government Exhibit, to be used at the Panama-Pacific Exhibition at San Francisco in 1915, held the place of honor in the centre of the large drill hall. The fruit in this display had just been specially treated,

and was put up in sealed glass jars, varying in form and size.

Around the walls were arranged displays of ferns and flowering plants in pots, interspersed with tables of cut flowers in vases. In one corner was an immense display of green, furnished by palms, trees, ferns, and other plants, while in front was a small statue with fountain playing continually over the figures of a boy and girl, the latter holding a bouquet of asters. The basin of the fountain was encased with green, a pathway led around it, artistically bordered by a quarter-cycle of potted plants in full-bloom. In the farthest corner a half cone-shaped display of palms, ferns and pretty plants gave a splendid setting in the large hall for the fruit exhibit in the foreground. Cut flowers in vases here again added to and blended with the splendid coloring of the fruit, giving a very fine effect.

On one side of the fruit display the basket and box packages of peaches and other fruit were to be found. This was a fine example of what box packing of fancy fruit should be. The boxes used were about 4 inches in depth, and were filled with wrapped fruit. The baskets.

were covered with netting of the blue and red sort, which showed off the contents of each basket in a remarkably agreeable manner.

On the other side, at the end of a long display of potted plants and ferns, a table of vegetables was to be found. Extra good tomatoes in size and quality were piled in cones, arranged on plates or in baskets. Along with these an enormous yellow squash, with egg plants, water and musk melons surrounding. This table formed the lingering reminder of the vegetable exhibits of years gone by but abolished from the prize list in 1912 for lack of prize money.

In the centre of this part of the hall, on tables forming three sides of a hollow square, were arranged the plates of single varieties and collections of the various fruits, apples, plums and pears starting one side, with peaches and grapes the other, meeting at a pyramid in the centre of one side of the square.

Vases of gladioli were placed at

intervals along the centre of the fruit tables, adding the last touch to a magnificent display of splendid fruit. The fruits themselves were exceptionally well chosen for size, quality and coloring, greatly exceeding that of other exhibitions seen.

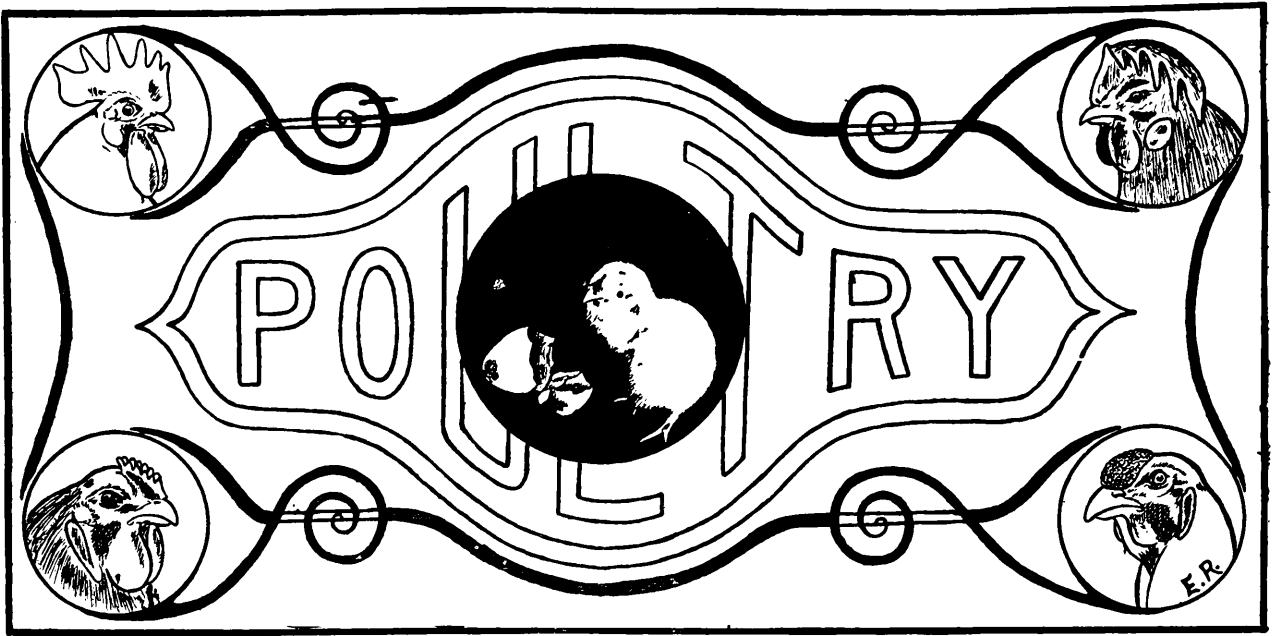
Excepting for lengths of red, white and blue bunting hung from the high ceiling, no bunting was used in decorations. The tables themselves were covered with white printers' paper which was, in some cases, covered with sheets of tissue paper.

The plates consisted of white cardboard, covered with fancy, round paper napkins, giving uniformity to the package.

A very interesting exhibit off the main hall were the small dining tables tastefully decorated with flowers and ribbon on white cloths, surrounded with tables of delicious preserves and flowered doll carriages, making the women's exhibit a pretty feature of the whole.



A Bed of Cannas.



The Dressed Poultry Trade.

By M. A. JULL, B.S.A., Manager and Lecturer in Poultry Dept.

"Put chippings in dippings, use parings to save
Fat capons or chickens, that lookest to have."



FROM year to year many thousands of fowls are sold from Canadian farms, and while a large number of these may be fat, it is a rare thing to find well finished ones. It is the finishing of poultry that determines to which class it belongs. The unfinished lacks in flavour, and when prepared for the table may present anything but an appetizing appearance.

With the gradual growth and expansion of the poultry industry there has come an enlarged classification of dressed poultry. The increased demands for poultry flesh have created new sources of outlet from the standpoint of the producer, and, conversely, the enlarged classification has given rise to increased demands for all forms of poultry flesh. Probably the most delicate poultry flesh marketed is in the form of squab

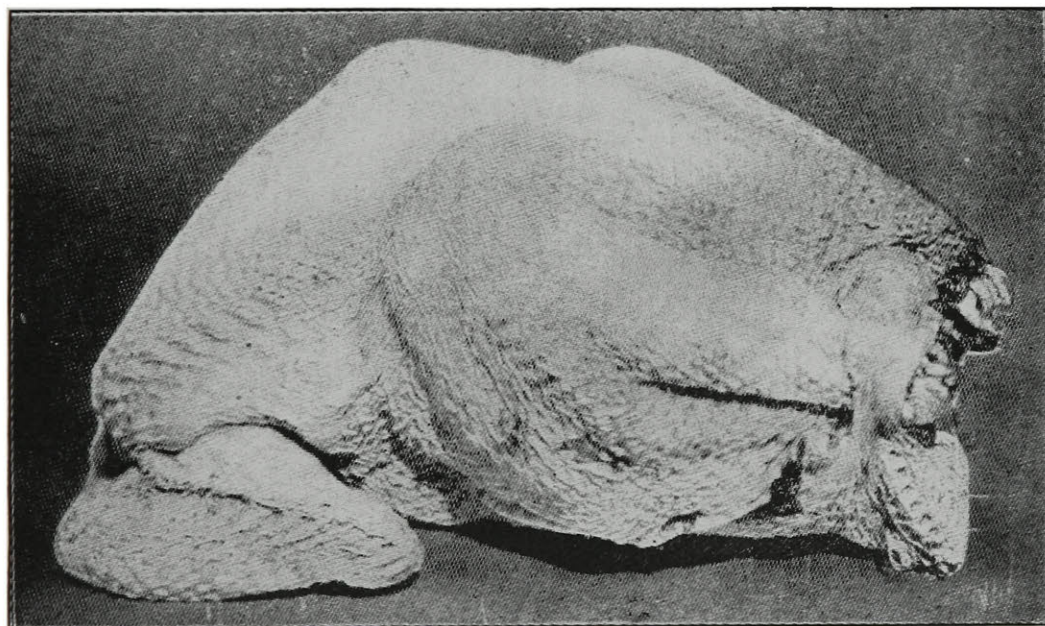
broilers, in which case the chickens are from six to ten weeks old and weigh from three-quarters of a pound to a pound and one half. Broilers are slightly older and weigh from one and one-half to two pounds. Both squab broilers and broilers constitute a delicacy in the high class hotels and restaurants, and they command a fair price for the producer on the markets of Montreal and Toronto. Fryers constitute a class of chicken weighing about three pounds. In Canada, however, the market for broilers and fryers is comparatively limited, and thus the farmer must needs divert his attention to the production of prime quality roasters. Roasters are mature chickens, which, when properly fattened and finished, weigh from four and one-half to six pounds dressed, and command a good price on the best markets. Capons are unsexed male chickens which have the advantage over cockerels of increased

size and superior flavour of flesh. Fowl is a market term used to designate all chickens over one year old, and these are best suited for boiling. Of ducks we have green ducks and ducks, likewise green geese and geese; the term "green" designating immaturity. In each case green ducks and green geese are marketed when from eight to twelve weeks old and weigh about four pounds. The latter term is used in the case of practically mature ducks and geese. Turkeys are divided into young and old, according to age. Guinea fowls are becoming more popular on the market. This was

that simply has been fattened and one that has been finished properly. The consumers do not seem to realize that the deposition of fat plays an important part in determining the quality of poultry flesh, and in this country they do not realize the difference in quality as readily as do the consumers in England and France. The producers should well take to heart,

"Though in our work we often fail,
The way we finish tells the tale."

Superior finishing of all classes of poultry should not be the only object



Trussed for the Oven.

brought to my attention when visiting the New York poultry market recently, when I was shown a large number of squab-guineas which were being delivered to a high-class hotel where they were to be served as partridge.

Thus we have what might be called an elementary classification of dressed poultry; but from the standpoint of the general trade it is comprehensive enough. The producers take but little trouble in properly preparing their poultry for market and the consumers do not recognize the difference between a fowl

of the poultryman. That which is most necessary in the improvement of the Canadian poultry industry is improved stock.

Although improvement has been made in methods of fattening, killing and dressing poultry, still the best success will only be made when the quality of the stock on the farms is vastly improved. Where Plymouth Rocks and other "American" breeds, such as the Wyandottes and Rhode Island Reds, predominate, the average quality of the packer's output is higher than in com-

munities in which smaller breeds are kept. The American breeds, along with the Orpingtons, are general purpose fowls, are usually good layers, particularly in winter time, and make fine table birds, whereas all Leghorns, Minorcas and Anconas are egg laying fowls, and are not well adapted for the production of roasters, though they

preservation, it must be properly raised, killed and dressed. The first step in preservation of good quality is to starve it for 24 hours, allowing, however, a liberal supply of fresh clean water during this period. The water flushes out the intestines, which have been empty of food, and the next step in the dressing of market poultry is the killing and



Roasters packed double layer style, side to side. Upper layer has heads turned down, and lower layer has heads turned up; feet crossed. Twenty-four roasters to the box.

make good broilers. Pure bred stock will give more uniformity in products, also better results in breeding work, and will be found more profitable in the long run.

If dressed poultry is to reach consumers with the best of flavor and wholesomeness, the most attractive appearance and in the best possible state of

bleeding of the fowl. The incomplete removal of the blood causes an unsightly appearance, and a very large proportion of bad poultry, now marketed, is due to this cause. This is evident by red dots which frequently occur where the feathers have been removed. Red hips denote poor sticking. Generally it is in the neck which shows more plainly the

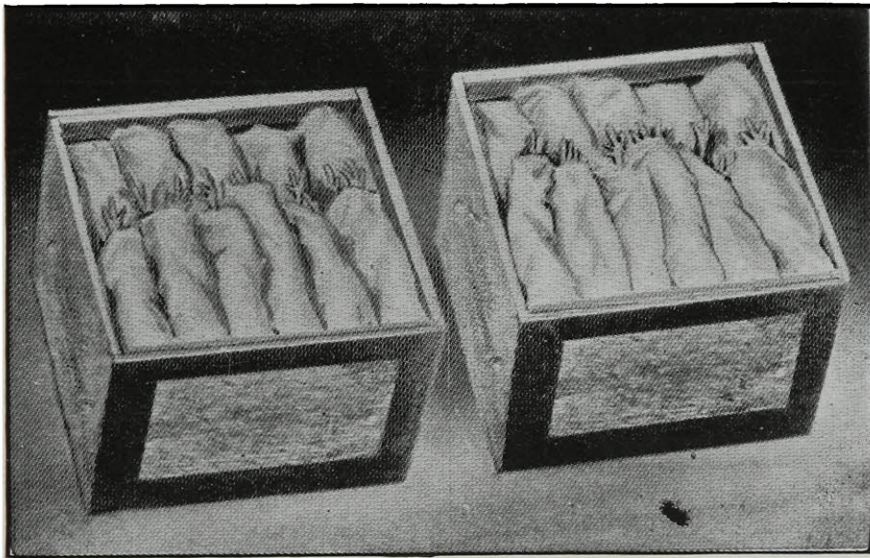
presence of blood in the fowls or that a wrong method has been used in cutting the blood vessels. The neck is the first part to discolor, becoming first red and finally green.

Aside from the bad appearance of incompletely bled chickens, their keeping qualities are very inferior. The flavor is not so good, the flesh loses its firmness sooner and in every way the product is more perishable.

As soon as the bird has been stuck and bled, picking should begin at once. There are many different ways of dressing poultry for the market. In dry picking,

If any food remains in the crop after the bird is dressed, an opening should be made into the crop at the extreme side and just above the wing or shoulder joint and the food taken out.

It is absolutely necessary that the animal heat be allowed to pass out of a dressed bird as soon as possible after it is killed. The numerous bacteria that are always present begin to develop very rapidly as soon as the bird is dead unless it is cooled. Cold retards the development of bacteria, and when the temperature of the bird is near freezing, the development is very slow, and when



*Broilers wrapped in parchment paper and packed for shipment.
Double layer pack, making 24 broilers to the box.*

roasters are picked clean except for a few feathers around the neck at the base of the head. Capons should be dressed capon style, that is, the feathers are left on the upper part of the neck and tail and on the outside of the wings, leaving feathers on the upper part of the last two joints, including the long wing feathers or flights.

After the bird is dressed, the feet and head should be washed, using a stiff brush, and the vent should be well squeezed to remove any dung. If this is not done the chicken will likely develop a green butt.

frozen it is practically suspended. A dressed bird, however, should not be placed at once where the temperature is too low, for in that case the bird will not cool properly. If the bird is placed immediately in too cold a temperature the heat is held within long enough to give the putrefactive bacteria a chance to develop to a sufficient extent to give the bird when cooked an offensive flavor. The birds should be cooled in a temperature of about 40 to 50 degrees before being packed.

The heads of all classes of standard packed birds should be wrapped. The

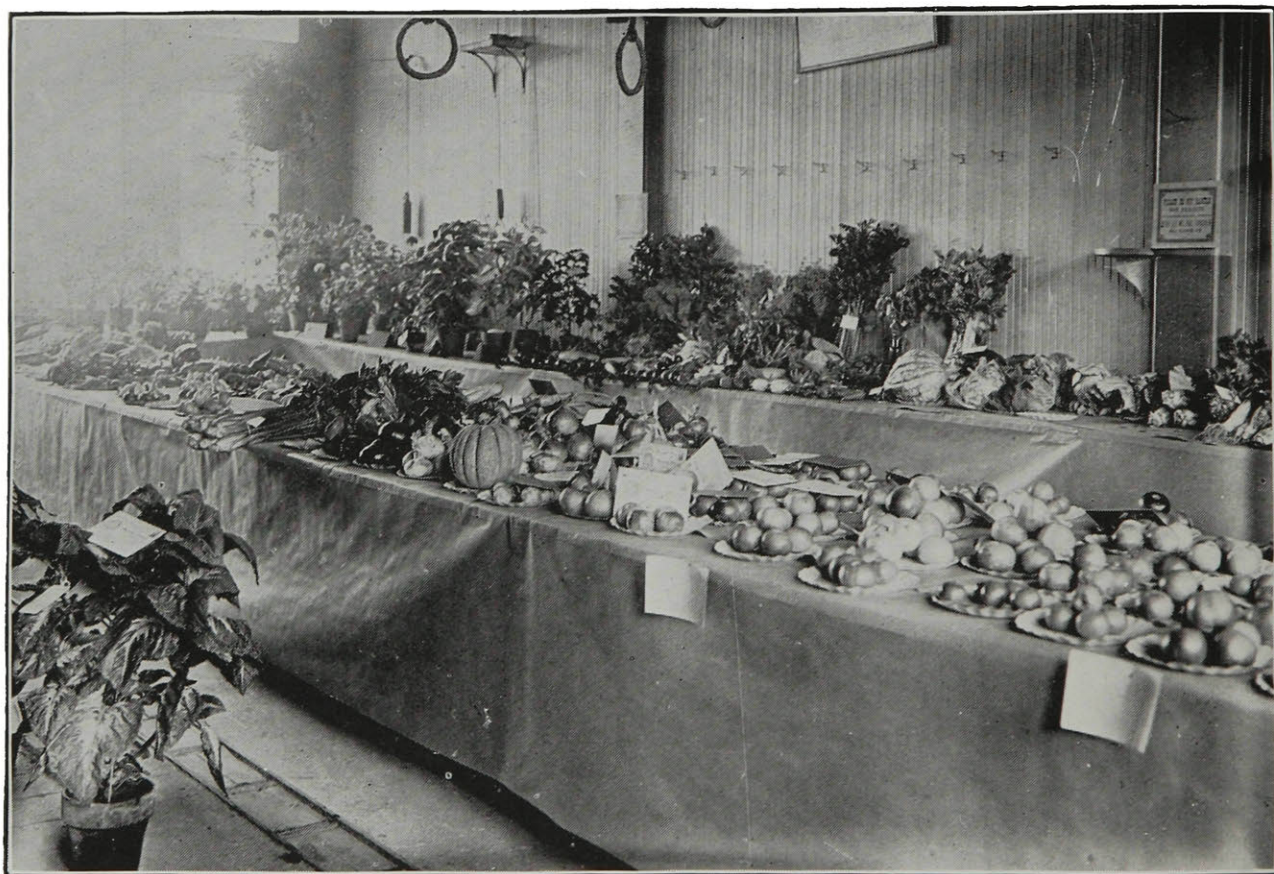
only exception is with the "squatted" or export packed bird. Either 30 parchment paper or grease proof imitation may be used. The most attractive and practical head wrap is one made from a sheet of paper cut as follows: use 24 x 32-size sheets of parchment paper.

All poultry should be put in an attractive style. It should be selected for quality, assorted for size, and packed in approved style in new boxes of proper size and suitable material. The determining of the quality, the assorting as to size, the style of packing, and the appearance and shape of the

boxes to use, are approaching a uniform standard. Grading and packing should be done as soon as the birds are properly cooled. No birds should be packed the same day that they are killed.

All birds must be dry plucked, gradually but thoroughly chilled before packing and not dipped in water. Put on the market undrawn and having head and feet on.

If the poultry is to be marketed immediately, pine boxes may be used to good advantage and are cheaper, but if the poultry is to be frozen and stored, whitewood or cotton boxes should be used.



At the Montreal Vegetable Growers' Exhibition.

Notes of Interest.

A recent experiment in forcing chickens by electricity has been conducted in England on one of the largest poultry farms in the world. The results obtained have been very satisfactory as far as rapidity of growth and development of flesh are concerned.

A new administration building has been erected on the poultry plant at the Ontario Agricultural College. This will be of great service to the Department and will add much to the present extensive equipment.

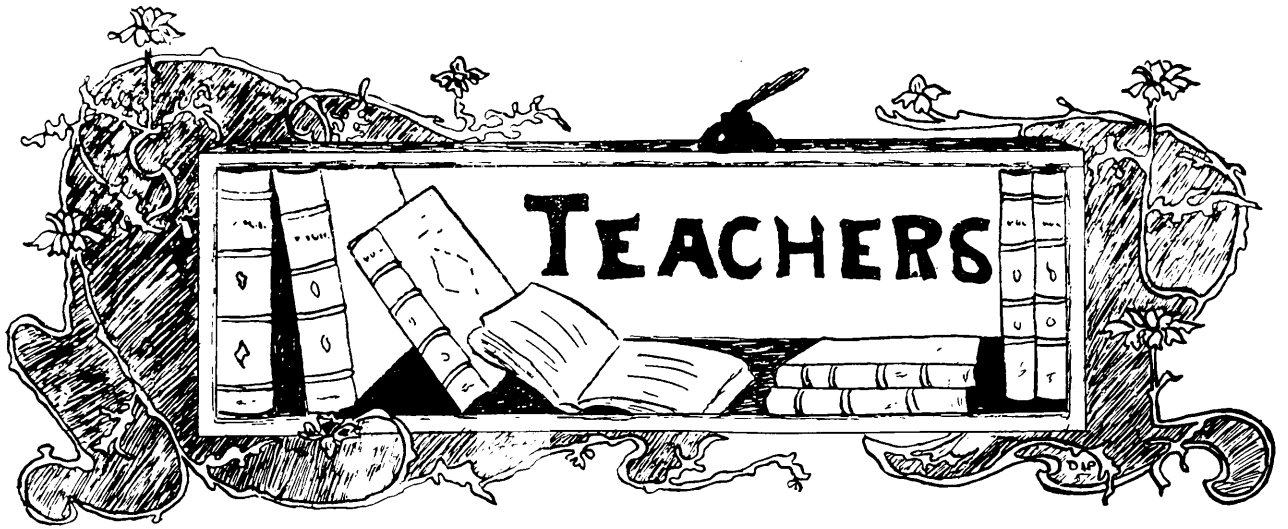
Of late years, through improvements instituted by certain leaders in the egg business, the normal tendency has been toward a material expansion in the commercial breaking and canning of eggs. Almost up to the present the canning of eggs, either to use while fresh or to freeze for future needs, was chiefly carried on in insanitary surroundings by a large number of small operators. Among the more recent developments in the egg-breaking and canning business are the recent establishments of two plants in New York City and one in the state of Missouri. Through the institution of these improved plants unworthy elements in the business have been weeded out and the stimulus given to the egg canning industry insured its permanent growth. The cracked eggs of the general trade are broken under most wholesome conditions and in most sanitary surroundings. After being candled

the eggs are taken into the breaking room where neatly attired girls do the breaking, working at tables of white glass equipped with a breaking outfit consisting of a tinned tray surmounted by a horizontal nickel-plated knife and holding the glass breaking cups. There is also an ingenious and patented device for separating yolks from whites when this is desired. Should a bad egg be found upon breaking, all the utensils are thoroughly sterilized, being replaced by others from the sterilizers. All the broken eggs are canned in 30 lb. cans and frozen and are held till sold. Improvements in the egg-breaking and canning business are saving many thousands of dollars to the egg industry.

On the poultry plant of the College there have been erected two new poultry houses, to be used for experimental purposes. They are of reverse types and are equipped with various styles of trap nests and feed hoppers.

The Live Stock Branch of the Dominion Department of Agriculture are endeavoring to formulate an "Egg Marks' Act," having for its purpose the control and improvement of the egg trade.

Egg Circles are in successful operation in Quebec, at Shawville, Wyman, Lady-smith, Hemmingford and Dunham. Sutton and other places are contemplating organizing circles.



MISS B. POMFRET, EDITOR.

A Trip to Nassau.

By ADELE M. BARDORF.



AS the gangway was pulled in, a hundred handkerchiefs fluttered in the wind, "good-byes" were on every lip, and were echoed back again by friends who were thronging the pier. Then the order was given to "Slip Cables," and a moment after the "Denver" swung out into the current. It was not only "good-bye" to our friends, but to the grim sky-scrapers looming against the cold sky, to the bustle and roar of a great metropolis, and, best of all, to winter; for those on board the S.S. "Denver" were bound for the Bahamas, the isles where eternal summer smiles.

After crossing the Bar and sailing out on the gray Atlantic, the "Denver" turned her bow to the south; and every throb of her engines was bringing her nearer to a land of sunshine, of warmth, of beauty.

The first two days she had to weather stormy seas, until Cape Hatteras was passed. Everybody had had enough of tossing and rolling, and I was glad, when coming on deck the third morning, to see a blue sky, and the sea sparkling in

the sunlight. Everything around seemed blue and gold.

We were entering the tropical water, and getting first glimpses of its beautiful tints. Each day had been warmer than the previous one, and now the sun shone with summer heat.

It seemed quite in keeping with the marvels of this new world to see the tiny "flying-fish" emerge from the waves, so frail and silvery as to seem a part of the foam from which they sprang.

We sighted Nassau in the late afternoon, and the town lying before us bathed in the mellow light of sunset, with a background of slender, waving palms, and the glint of white roofs in the sunlight, made a picture of such beauty that it was not easily effaced from the memories of those seeing Nassau for the first time.

When the boat neared the shore, some native skiffs came alongside, and a very black man held up a basket of fruit to be sold to the passengers.

It was very exciting to see the black boys diving for pennies, thrown in the water by the passengers on the ship.

The coin goes down, down, down, and all are quite sure that the boy will never get it, but before we know it he has seized the penny, and where do you think he puts it? . . . Why, in his mouth! Sometimes there is a race between two of them, and the victor promptly swallows the penny, while the disappointed one clamours loudly for more.

The first impressions I got of Nassau were its quaintness, the idea of having stepped back into a town of olden times, —picturesque houses shut in by old pink walls, and the peace and quiet reigning over all. Then the flowers! Such roses in February! One sees flowers everywhere, and a good many strange trees, too. There is the poinciana, very beautiful when covered with its scarlet blossoms; the giant cotton tree; and another tree with down-growing branches, which root themselves in the ground again.

Then a group of barefooted darkies goes by, chattering loudly, and patient little donkeys with loads piled high in the carts they draw.

The natives of Nassau do many things which seem topsy-turvy to us. After the rain a darky walks out in bare feet; but he is very careful to tie up his head in some rag, for fear of catching cold. Then, too, the native fears the night dews, which are heavy, and when night comes on, each house is shut up so tightly that no air can possibly get in, after which the family goes to sleep.

One of the first things a visitor to Nassau does is to hire a carriage and drive around the country. There are two very old forts outside the village, one picturesquely built right on the sea-shore; the other, which is where the English soldiers were garrisoned in the 18th century when defending Nassau against the Spaniards, is built on a hill,

and commands a view of Nassau Harbour.

Along the road the driver points out (if he feels inclined to talk) the different kinds of plants growing in the surrounding fields; and there are more new ones than could be counted on one's fingers. The most common are the banana, orange and grapefruit trees, the sapadilla, or (as the natives call it) the "dilla," the tamarind, the alligator pear, and the cocoanut trees.

The soil of Nassau and its neighbouring islands is very fertile, so that Nassau holds out golden harvests to the agriculturist. Any vegetable or fruit can be raised in abundance. Under the present conditions, however, fully one-third of the fruit and vegetable crop is going to waste, and what Nassau needs to develop its possibilities are the energy and financial backing of a few Northerners.

There are large plantations of pineapple, sugar-cane and sisal. The last is a species of the cactus, from which the native women make "sisal" hats, baskets and mats.

While driving along the country roads, one's carriage is constantly being pursued by some half-dozen picanninies, whose "war-cry" is, "Penny, chief! Penny, chief!" The only way to silence these young warriors (who, by the way, have very lusty lungs and are swift runners) is to throw a few pennies in their midst; and whilst they are scrambling for them to seize the opportunity of getting at a safe distance.

Nassau horses, however, cannot keep up a good pace for very long; they are too ill-fed for that. In fact, they are so thin that I could never really enjoy a ride while in Nassau.

One of the keenest pleasures of life here is the sea-bathing. The colour of the water is something marvellous; and

mere adjectives are inadequate to describe it. It changes from azure to sapphire, with stripes of vivid green, to the distant purple and palest amethyst.

Artists, who go to Nassau to put these beautiful colours on their canvasses, are fascinated by it. A picture may be a true one; but when exhibited up North, people often say, "Never saw the sea that colour!" but it is because they have never been to Nassau.

On the way to the beach there is a fruit-stand, where one can eat all the fruit one wishes. There are platters piled high with "dillas," bananas, star apples, oranges and fresh cocoanuts, just from the tree.

If you should ask for an orange, Joe, the colored man, would hand you one on a stick; for that is the way oranges are eaten in Nassau. Perhaps it is the novelty of it, or perhaps the particular sweetness of Nassau oranges, which makes them so popular; but one certainly does eat plenty of oranges there.

No one would think of leaving Nassau without seeing the beautiful "sea-gardens." There are gardens away down under the sea, as well as gardens on the earth,—gardens that have never been cultivated by man, but which are just as lovely in their own way as those that have been.

About a half-hour's sail out of Nassau Harbour there is a sea-garden; and

through the limpid waters the tiny trees and plants are very plainly seen. Here the trees are of coral, the shrubs and flowers are delicate sea-fans of yellow and lavender; while the folk who live in this pretty kingdom are gaudy, silver-finned fish. As they swim about their coral arbors, now a flash of yellow, now a flash of blue and green, one recognizes the fitness of the name "sea-garden."

By Easter all visitors leave Nassau for their Northern homes, and it remains a very quiet place until the next winter.

Cut off from the mainland of Florida, from which boats come only once in ten days during the summer, the Nassauvians know almost nothing of what is taking place on the great continent to which it is so close. This remoteness, so to speak, is the influence which has kept Nassau so undisturbed, so archaic.

I was very sorry to leave the place, as everyone is, and I felt as though I were leaving an Enchanted Land, where

"Peace tarries for a lifetime at door-
ways unrenowned;
And the velvet air goes breathing
across the sea-girt land,
Till the sense begins to waken, and the
soul to understand."

—Bliss Carman.

In these days we hear a great deal about educating the man on the land, and, after all, we sometimes wonder whether more knowledge of agriculture is what is needed or living more closely up to what we already know. Most people realize the good things but few practice them as they should.—*Farmers' Advocate.*

The Richness of Life.

By MISS L. B. ROBINS, B.A.



SOME two years ago, towards the close of the session, a student in the School for Teachers made this remark, "I lost my way in the College. I am very near the end of my life here and I realize how few of the opportunities that were offered me I had the good judgment to seize. I did not know how to select."

Seeing that there are activities of many and various kinds, good, bad and indifferent, in college life, it may not be unprofitable, at the beginning of this college year, to take a preview of the things that are worth while, having due regard to the future as well as to the present.

First and foremost among valuable college activities must be placed preparation for the life work of each individual, whether that work be learning how to train a child for citizenship, or how to make the earth blossom as the rose, or the art of managing a home with taste, skill and economy. The work habit should be acquired as the first indispensable of rich living. Ruskin tells us in his *Fors Clavigera* that "it is physically impossible that true religion or pure morality should exist among any classes of a nation who do not work with their hands for their bread," and in his "Ethics of the Dust," "Your intelligence should be far in advance of your acts. Whenever you do not know what you are doing, you are sure to be doing wrong." The trained mind dictating to the trained hand is the ideal for effective work. Aimless work has no justification and aimless leisure has as little.

Loafing is one of the most despicable of habits and one of the most insidious, because it can so easily cloak itself under the guise of rest or recreation. Some students, heedless of the activities that make for the richness of life, spend hours each day lounging in their own or other students' rooms or walking the corridors "whispering sweet nothings into one another's ears," and so preparing for graduation into the already full ranks of the "animated vacuums."

Is it in this empty converse that friendships are made which "become the genius that rules the rest of life"? School days and college days are the harvest time for friendships, and true friends are a most determining factor in the richness of life. Make staunch friends now for the harvest time will soon be past, and you may have to live long upon a pitiful garnering, for few life friendships are formed after the age of twenty-five.

"Friendship, our friendship, is like the
beautiful shadows of evening
Spreading and growing, till life and its
light pass away."

Learn to use the mother tongue well. Take every opportunity of hearing a good speaker. You will observe that he has no accent which marks him either as Englishman, Scotchman, Irishman or Canadian. We have it on good authority that the best English is not spoken in England but in certain parts of Ireland and Scotland. We are told, but not by the Scotchman or the Irishman, that Canadians have a disagreeable accent in speaking. Perhaps the climate is responsible, if we have this failing,

and "we being far northerly do not open our mouths wide enough in the cold air to grace a southern tongue." In judging of the matter we must bear in mind that we all love our own. The

languages which make living languages truly alive," is invaluable, for their study will force you to choose your words well, never letting the second best word serve as substitute for the best. Read

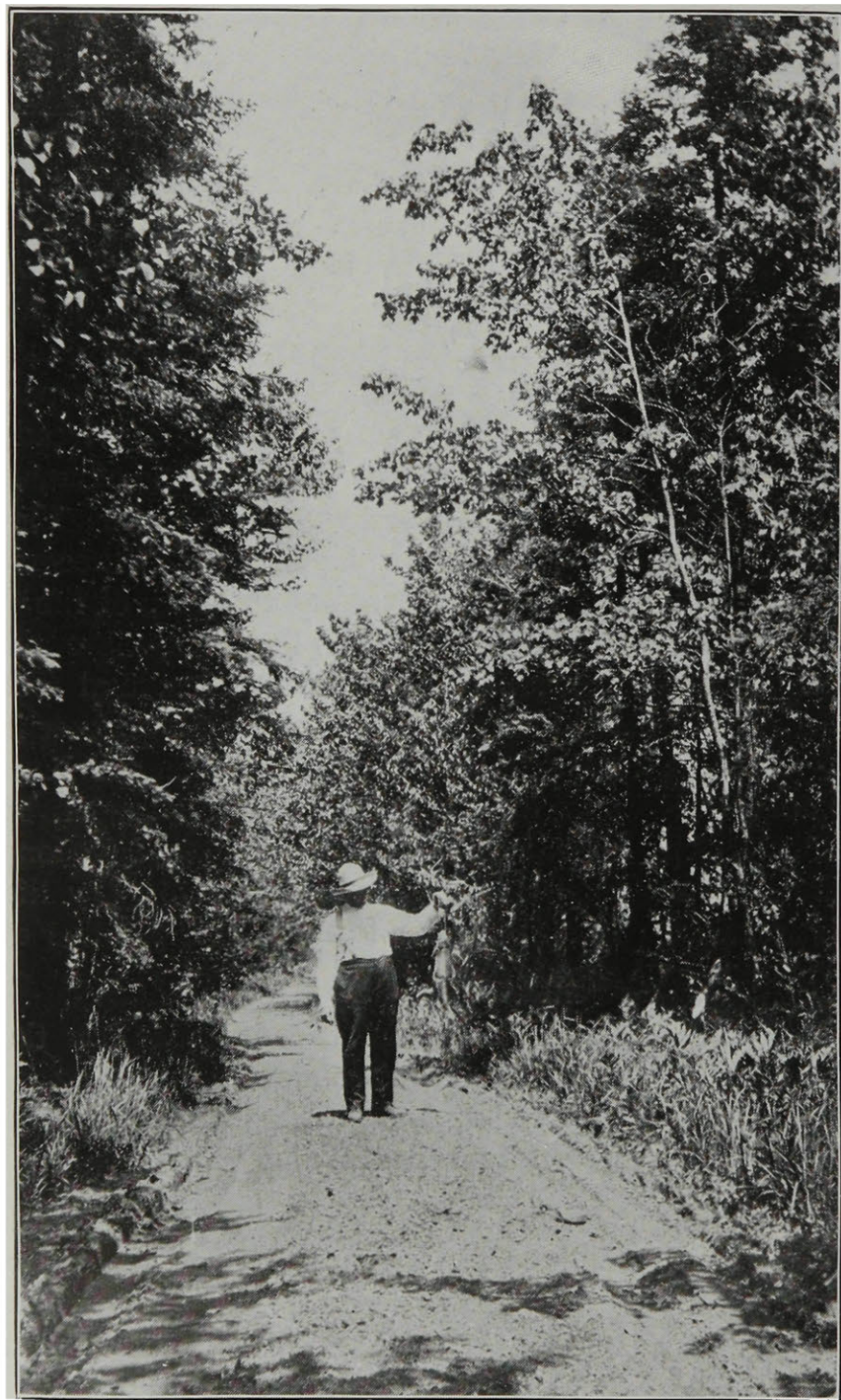
aloud, too, good English models like the Bible. If you would feel the "power of words" to express exact thought, read aloud several times Macaulay's Essay on Milton. Read poetry to keep your emotional nature in good condition.

Use the college library to make the acquaintance of the books that are worth reading. Remember that you will quickly pass out of reach of this storehouse of learning, so it behooves you now to make a list of the books which you would like to purchase later on.

Our grand organ has come to life again. For that cause all life at Macdonald will be the richer. In order to learn to appreciate good music it is not necessary to have either ear or voice. Lamb tells us, "Sentimentally I am disposed to harmony, but organically I am incapable of a tune." The best that the majority of people can do is to

get into training to be good listeners. Students who neglect

"Music that gentlier on the spirit lies
Than tir'd eyelids upon tir'd eyes"



An Eastern Townships "Minnow."

climate need not have any deleterious effect upon our manners, at any rate. Let us see to it that these are good.

In gaining command of language the study of Latin and Greek, "the dead lan-

make a serious mistake and thereby lose much of the richness of life. To talk while a musical programme is being rendered is not merely a breach of good manners, it is a public confession of lack of ear, and worse than that of lack of emotion, a confession of poverty in the inner springs of life.

What does Macdonald College offer in the way of art? Its walls speak to us in the picture language through carbon photographs of the works of the best masters. Study these and learn to judge a good picture. Find out who painted the originals. Many of you will never again get a like opportunity. We are near Montreal, a great art centre, a city standing high up among cities in its "home" possession of good pictures and its fine art gallery. Visit the Montreal Art Gallery before you leave the College. Begin to prepare for a year of travel, when you may visit the great National Galleries of Europe, priceless boons to mortals.

Teachers, of all people, need to keep their emotional natures alive by reading poetry, listening to music and studying pictures, for their great task in education is the stirring and fostering of the "inner impulse" which the individual units of poor humanity possess in such varying degrees of power. All initiative in work is taken under the "inner drive," and they are slaves who are lashed to their tasks by some outside force.

Ste. Anne is noted for its sunsets. A few people know the glory of its sunrises. After lectures, from the campus or the college windows, can you see and feel that

"The day is done; and slowly from the scene

The stooping sun upgathers his spent shafts

And puts them back into his golden quiver."

There are the social virtues also to be cultivated. It is very embarrassing in later life not to know how to enter a drawing room and how to retire from it with dignity, how to address one's elders, one's equals and one's inferiors, if such there be. To play the fool is pardonable in youth, but not in age. It is well for young people to learn the social conventions and put them into practice when they get the opportunity, for these conventions are crystallized good manners, and the knowledge of them will give the entrée to the society that is worth while.

In relation to standards, have the moral courage to stand by your home training. Follow the traditions of your family in respect to keeping Sunday. "Sabbath days—quiet islands on the tossing sea of life."

To live in the country and to upturn the sod are not in themselves a guarantee of rich and happy living, for in the little adobe huts on the prairies the women, and men, too, go insane. This is from lack of contact and converse with friends, from absence of books and music and pictures and the lack of power to appreciate them. The richest life of all time was that of the City of Athens in the days of her glory and her power. Listen to Macaulay's word picture:

"There seems every reason to believe that in general intelligence the Athenian populace far surpassed the lower orders of any community that ever existed. Books (these were few in number, but were good and well known), however, were the least part of the education of an Athenian citizen. Let us for a moment transport ourselves in thought to that glorious city. Let us imagine that we are entering its gates in the time of its glory and power. A crowd is assembled around a portico. All are

gazing with delight at the entablature, for Phidias is putting up the frieze. We turn into another street; a rhapsodist is reciting there; men, women, children are thronging round him; the tears are running down their cheeks; their eyes are fixed, their very breath is still, for he is telling how Priam fell at the feet of Achilles and kissed those hands—the terrible—the murderous—which had slain so many of his sons. We enter the public place; there is a ring of youths, all leaning forward with sparkling eyes and gestures of expectation. Socrates is pitted against the famous atheist of Ionia and has just brought him to a contradiction of terms. But we are

interrupted. The herald is crying, 'Room for the Prytanes.' The general assembly is to meet. The people are swarming in on all sides. Proclamation is made 'Who wishes to speak'? There is a shouting and clapping of hands. Pericles is mounting the stand. Then for a play of Sophocles; and away to sing with Aspasia."

The lives of the people of Athens were enriched by the working into their very fibre an appreciation of music, of the drama, of poetry, of sculpture, of philosophy and of the principles of government, through the school of the street. Blessed streets!

WHIP-POOR-WILL.

By PROF. A. W. KNEELAND.

"Whip-poor-will! Whip-poor-will!"
At eventide, these notes the forest fill,
Like cry of some lost spirit—low and faint,

Voicing in accents sad a hopeless plaint,
As he sits lonely 'bove a gurgling rill.

"Whip-poor-will! Whip-poor-will!"
When nature sleeps, and all else hushed and still,

And in the western wave, the sun has dipt

His fiery disk, and twittering bird has crept

Into his leafy bower, secure from ill,

Then, "Whip-poor-will," so low
That one can scarce its timid cadence know,

Sounds o'er the vale like some far-off good-night,

As die away the last faint gleams of light,

And moon and gathering stars my senses thrill.

And as his dark wings fold,
And the low, piled-up clouds are painted gold,

Night hovers o'er me like some fabled bird;

And e'en this saddest plaint is no more heard

Till night again shall all things darkly hold.

And so a hopeless sigh
Oft comes when day's last darkening blushes die,
From human heart bewildered with the strife

And mystery of a sore-troubled life,
Like Whip-poor-will's low distant plaintive cry.

Professor Sinclair Laird.



SEPTEMBER, 1913, begins another college year for us, gives a new lease of life to Macdonald, and brings many changes.

Perhaps the greatest and most important change in the School for Teachers is the appointment of a new Dean.

and began the course of study in which he proved himself to be so proficient.

During the time which he spent at the University, he distinguished himself by gaining some ten medals for Latin, Greek, French, Education, Logic and Metaphysics.

Besides this, he took first and second



Dean Laird.

We count ourselves extremely fortunate that Professor Laird has accepted this position, for he brings with him a record, such as few men could, of honours gained by hard study, and of experience gained by good work in high positions.

In October, 1902, Professor Laird entered the University of St. Andrew's,

class honours in Mathematics, Latin Prose, French Prose, and Essays, Political Economy, Ancient History, Moral Philosophy and Classics.

In the summer of 1904, he attended the University of Grenoble, in France; and in 1906, the University of Lyons, at which places he again distinguished himself.

In 1906, he received his degree of M.A., and in 1910, his degree of B. Phil.

We must not think that we are the only institution which can lay claim to Professor Laird as an instructor, for he has taught in several other places of importance, as will be noticed in the following:—

Harris Academy, Dundee; Elgin Academy; the Lycee of Lyons; High School of Stirling; the Training School, Dundee; St. Andrew's University and Queen's, of Kingston, Ont.

There is another side to the Dean, which perhaps will interest some of our readers even more than his intellectual side, namely, his fondness for athletics.

At College he was a splendid athlete, taking part in all the sports at St. Andrew's and elsewhere.

He played Rugby football exceedingly well, but golf was his favorite sport. In this he was more proficient than in any other; and he helped his University team to win honours from many others.

He also served three years in the "Fife and Forfar Yeomanry," which was in connection with St. Andrew's.

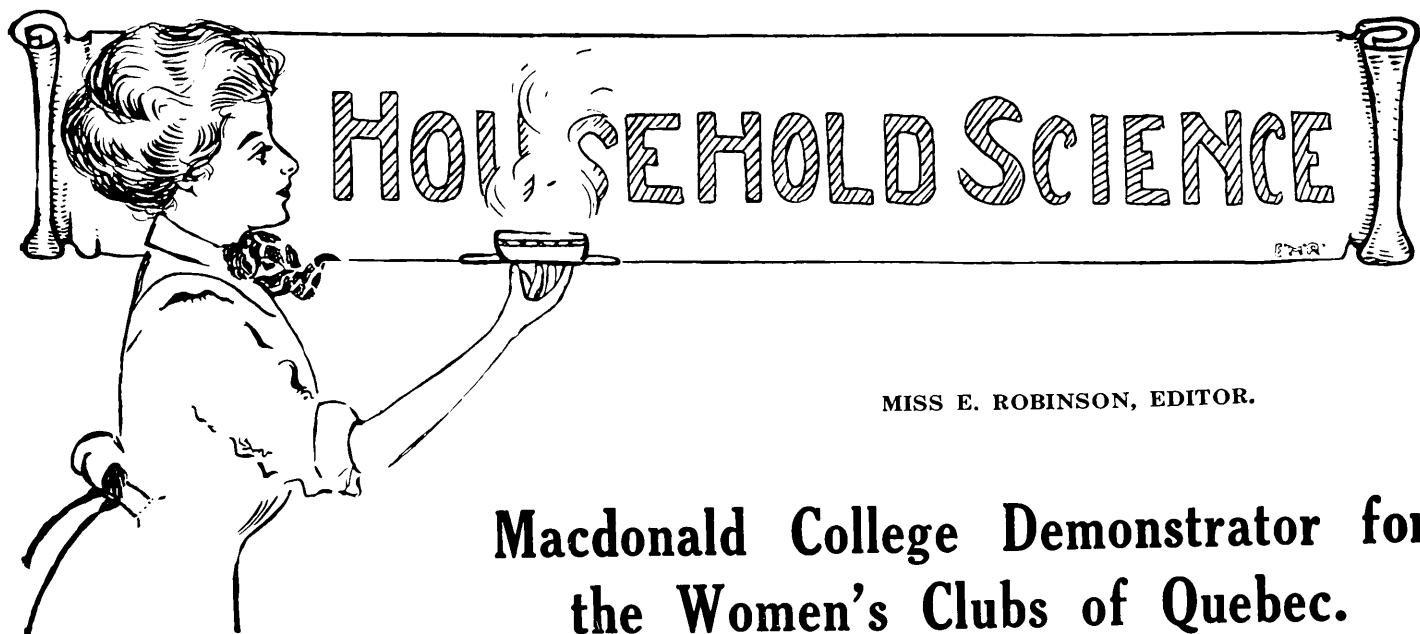
With such a record as this, we think Professor Laird is well fitted to continue the work which Dean Locke began, and which Dr. Sinclair carried forward so nobly; and we sincerely hope that he will always feel that we co-operate and stand with him in all that makes for high thinking and noble living.

We extend, then, a hearty welcome to our new Dean and all good wishes for the coming year of mutual work.

BERTHA A. POMFRET.



St. Anne from the River.



MISS E. ROBINSON, EDITOR.

Macdonald College Demonstrator for the Women's Clubs of Quebec.



IT is now two years since Macdonald College first sent out graduates from the School of Agriculture to help the English-speaking farmers of Quebec by demonstrating to them more efficient methods of carrying on their work.

While recognizing the needs of the farmer, the College has not forgotten the needs of the farmer's wife, and the importance of her economic value in the affairs that pertain to the nation. The strength of a nation depends upon its constant supply of citizens from the soil, and the quality of this supply depends on the homes from which it springs. It is therefore of great importance that the women of rural districts perform intelligently the duties devolving upon them in homemaking, in housekeeping, in co-operation in the actual farm work, in broadening the social life of the community and in the care and training of children.

That the women of Quebec are alive to the problems involved in fulfilling these duties is evidenced by the fact that several Women's Clubs have already been organized to discuss questions

relating to these matters, and most interesting and instructive work is being carried on.

To aid them in this work, the College is sending out Miss Frederica Campbell as Macdonald College Demonstrator for the Women's Clubs of Quebec.

Miss Campbell is an honor graduate of the Housekeepers' Course and has had a wide experience in demonstration work as well as in housekeeping. Having been brought up on a farm herself and living, as she has, the greater part of her life in rural districts, she is keenly alive to the problems confronting the women on the farm. Miss Campbell has also taught for a number of years in the country districts of Prince Edward Island.

The work of the Demonstrator will be:

(1)—To organize new Clubs throughout the Province, visit those already formed and help direct the work of these Clubs.

(2)—To answer all questions from Club Members, to give them access to the work carried on at the College and assist them in making out their yearly programme.

(3)—To give practical demonstrations in subjects relating to the general care of the house and the preparation of foods.

(4)—To address meetings and arrange for lecturers to address the Clubs on special subjects.

A circulating library has been started at the College consisting of bulletins, pamphlets and magazine clippings, which may be used in preparing programmes for Club Meetings. Any Club Member may have the literature requested, on condition that it be not removed from the folder in which it is sent out and

that it be returned within two weeks.

Club Members are requested when writing to the Demonstrator to give both their postal address and the name of their Club, to state the place, date and hour of their meeting and also to send in the names and addresses of women from other districts who would be interested in and forward this work if a Club were organized.

It is the earnest wish of the College authorities that the women of the Province feel free to consult Miss Campbell on all matters pertaining to home, community and club life.

A Winter in the South.

By MRS. E. R. CROWELL, H. Sci., '13.



TO dwell for a time beneath cloudless southern skies, and to revel in the beauty, profusion, and variety of flowers yielded up by Nature, there is an experience that lingers in one's memory, like an old song, for many a long day.

Travelling southward in December from the uncertainties of a Canadian winter, very little change is noticed until Washington is passed. Then, very gradually, the air becomes more balmy, and heavy snow gives way, apparently, to the warm rays of the sun. Ice-bound lakes and ponds yield also, and show only a suspicion of frost and snow along their borders. More green grass appears, there is more foliage on the trees, and pine is much more in evidence.

In among the pines may be seen many cottages and huts of all sizes and descriptions, these being occupied by patients taking outdoor treatment. The

fragrant and health-restoring pine belt extends, at varying distances from the coast, from the Carolinas through Georgia to the Gulf of Mexico. Throughout its length and breadth are to be found thousands of people who journey there to receive benefit from the health-restoring virtues of that district.

In Georgia, especially near the coast, the pine trees are laden with graceful, grey festoons of the Spanish moss which, swaying with each passing puff of wind, produces many strange and weird effects, especially in the more shadowy parts of the woods. In an old churchyard in Savannah these effects become ghostly. The moss, clinging and swaying in abundance from every tree, sweeps the head, and circles around the tombstones in every sort of weird and fantastic curve.

Taking a town in central southern Georgia as a type of an old-fashioned

winter resort, and travelling there from the eastern coast of the same state, the climate, appearance of the people, stations, and the general character of the country change rapidly, and one seems to be back in the days of Uncle Tom's Cabin. A few white people are to be seen, but the majority of those at the small stations are colored, and lounge about in all stages of dress and undress. Wide, coarse, and usually ragged straw hats, any-colored trousers, loose shirt, and rough boots make up the costume of the men, while small boys

with scant ceremony and with no apology for offering such an insult to his white brother, for insult it would be considered still in the south.

One seems to be living in the past in this region, for signs of the past lie on every hand, and are expressed in the hopeless aspect of much of the country through which the train passes.

A desolate country it is with little or no sign of enterprise or progress. Ragged uncleared pine woods succeed run out and neglected fields; broken down fences and gates are the rule and



Men's Residence from the East (Rear View).

wear the same, minus hat and shoes, and often even the shirt. Small girls are garbed, as a usual thing, in one little shabby, gaily-colored frock, while the adult females wear blouse and skirt of any thing or any color.

At every station there are two waiting rooms, one marked "white", and the other "colored." In the trains, too, are "Jim Crow" cars, and pity help the poor darky who dares set a foot inside the "white" waiting room or railway carriage. He would be ejected

not the exception. In the navigable streams are to be seen the remains of old wharves and landings, temporary shaky affairs taking their places where necessity demands them.

Right about the towns conditions are much better, though signs of industry and progress are not uniform or continuous even there. Lack of capital as well, perhaps, as the lack of that energy and industry that characterize the southerner are accountable for this state of affairs, as well as the fact that

so much of the population is colored, and southern colored at that.

Avoiding the large places the visitor of quiet taste may choose to locate for a time in Thomasville, a town of about 8,000 inhabitants, which is about 50 miles north of the Gulf, and situated right in the pine belt. Only about one-third of the inhabitants are white, and all authority, power, business, and influence lie in their hands, the colored population having absolutely no rights. They have, therefore, no encouragement to exert themselves at all, and as long as they earn enough to exist they are or, at least, seem satisfied.

The streets of Thomasville are very wide, irregular and straggling, and follow throughout their length the lines of least resistance. Trees are growing anywhere on the streets, quite frequently even in the very middle. One visitor, remarking that he supposed they had been left that way for the picturesque effect they produced, was informed that it was easier to drive around them than cut them down.

Business is carried on in an unhurried fashion, and shoppers are treated with a deference and attention quite foreign to the majority of northern places. Strangers on the streets are recognized and silently welcomed by the raised hat—a graceful courtesy indeed.

Men seem to spend as much time on the streets conversing with each other as in their stores or offices. Trays of refreshing drinks are constantly being carried from soda fountains to the poor men who are compelled to stay behind counter, wicket or desk.

Most, in fact almost all, of the old plantations have passed into the hands of wealthy northerners who make their winter houses there, keeping them in fine condition and entertaining lavishly. These plantations are always open to

visitors, and the many miles of finely kept roads afford very beautiful drives. All this helps to keep alive the old spirit of grief and bitterness that still burns and rankles unquenched in the bosoms of many of the older people, for they still live in the glory, the history, and the prosperous days of the past.

In January and February the deciduous trees lose their leaves, but they have no long period of rest, new leaves forcing off and replacing the old ones.

The climate is delightful. At this time of year days of sunshine are succeeded by chilly nights, when a log fire is very welcome. The houses raised from the ground on posts, and without foundations, are not built for cold weather. When the thermometer falls to freezing point, as it occasionally does, the lower floor is hardly habitable, for the cold comes up through the floor, and not even a good fire can keep it comfortable. Pipes, being laid very near the surface, frequently freeze, burst, and flood parts of the houses, but even this experience does not seem to teach any method of protecting them.

In the streets at this time of year poor darkies, driving behind mules, are seen huddled together over a small, smoky fire in a tin bucket which is carried along for this purpose. They seem to fairly shrivel up at the least touch of cold, and their evident misery is pitiable.

There is very little twilight in the south in the winter time, darkness falling very quickly after sundown. Then must a woman never fare forth alone, even for half a block, for this is against all traditions of the south, and a northerner so doing is accounted brave indeed, and perhaps a bit odd, too.

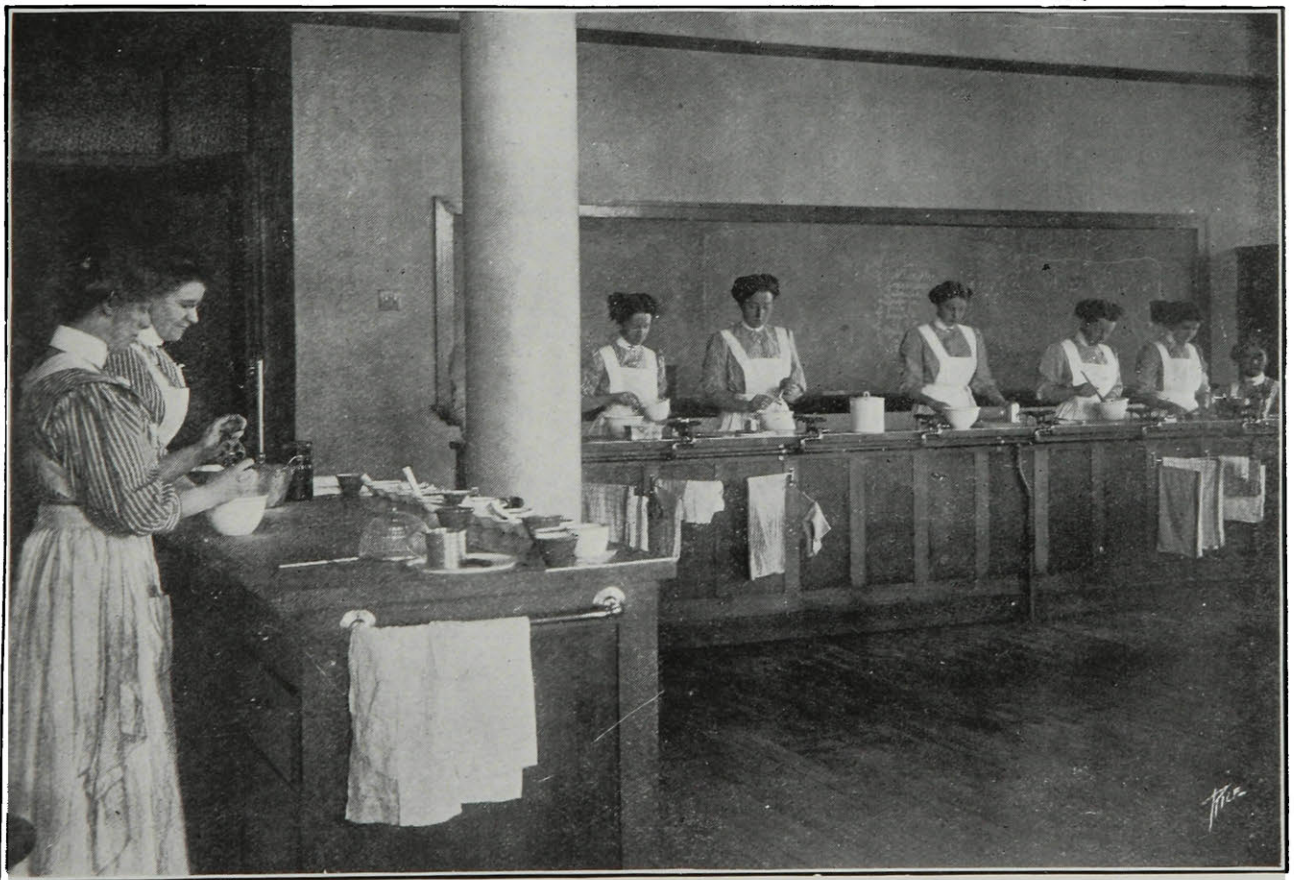
From the middle of February the sun rapidly increases in power and by March it is almost too hot in the middle

of the day for a northerner's comfort. But the perfumed, soft and langorous air of morning and evening is very lovely and conducive to much idling and dreaming.

As spring approaches the air is filled with the resinous odor of the pines and the delicious perfume of flowers,—violets, the sweet jasmine, the wax-like japonica, in every shade of pink and red, clustering and pendant bunches of wistaria, and the wonderful tints and perfumes of the roses are indescribable. They grow in riotous profusion wherever they can bloom, cling or climb, daring even to clamber right up the trunks and along the branches of the stately pines, sure, apparently, of a welcome for their sweet presence. Higher and higher

they climb, putting out fresh blossoms every day until it seems as though they were trying to touch the great blue above them. A lover of nature will stand speechless in a real rose garden, it is so indescribably wonderful and lovely. No trim walks nor stereotyped beds mark such a garden in the south, but a blooming-because-they-can't-help-it air answers the why of such richness of color and sweetness of perfume.

As the spring sun grows in power the visitor takes flight to his northern home, there to enjoy another kind of beauty,—the wakening and new birth of all things green after their winter's sleep, for "After the showers there's springing of flowers, and the smell of the good brown earth."



A Class in Cooking.



O. SCHAFHEITLIN, MISS BARDORF, MISS B. MACFARLANE, EDITORS.

MACDONALD COLLEGE LITERARY AND DEBATING SOCIETY.

OFFICERS:

President.....A. O. Schafheitlin
1st Vice-President....Miss M. Biltcliffe
2nd Vice-President....(To be elected)
Secretary-Treas......J. E. McQuat

MEMBERS OF EXECUTIVE:

President Teacher Literary Society, Miss M. Price,
President Section A Literary Society, Miss M. Marshall,
President Section B Literary Society, Miss L. Dixon,
President Section C Literary Society, Miss B. Radley,
President Elem. Teach. Literary Soc., Miss M. Jamieson,
President Home Economics Club, Miss A. C. Yuill,
Representative Junior Science, Miss Ethel Wathen,
President Class '17 Literary, G. A. Wallace,
President Class '16 Literary, L. R. Jones,
President Class '15 Literary, A. Taylor,
President Class '14 Literary, R. Huestis,

Once more this Society has organized and arranged for its first few meetings in the Assembly Hall.

The Executive would express the fond hope that this year there may be a deep interest taken in all that pertains to its welfare.

The officers of no society can succeed in bringing about profitable meetings unless they have the hearty co-operation of all its members.

Societies of this calibre do not exist for the sole entertainment of the many by the few, for this defeats the main object of the organization. That object is to provide an opportunity for the giving of mutual benefit to all, some taking part at times and listening at others, and thus receiving a two-fold advantage, being trained in matters of public appearance and speech, and also receiving information from those to whom they listen.

The Society is the only body in the College which has for its members all students in all classes, and this condition should enable them to foster in no mean way, that factor so essential to successful college life, the broad spirit of co-operation, which may be said to be the essential factor of college spirit.

Without this spirit no college can be successful in those things which really count for much in our short sojourn within its walls.

Let us then cultivate that *esprit de corps* in a practical way, by helping in every way possible the objects of this Society. Then and only then will we have that condition of affairs so essential to success.

Y. M. C. A. NOTES.

The Macdonald College Y.M.C.A. is one of the most valuable organizations for the men in residence. By it they not only get an introduction to College

of the association, on this occasion, was to help all the newly arrived students to get acquainted with each other and also with those who were here last year. These latter could be quite easily picked out from the throng, as they did not wear the same look of wild expectancy that the newly arrived had.

The general verdict would seem to be that the girls resemble and are just as fun-loving as those of last year.



Macdonald Literary Society Committee.

life at the opening Reception, but have an opportunity of hearing eminent speakers, and of keeping in touch with all other similar organizations in the country and with the conventions and conferences to which delegates are sent.

The annual reception was held, as usual, in the men's gymnasium on Saturday evening, Oct. 4th. The aim

The usual programme, as befits occasions of this sort, was indulged in, including name contests, college songs and promenades. There was one regrettable omission, and that was that we did not hold hands and sing "For Auld Lang Syne." This was especially missed by the men in the Senior years. Of course the Freshmen were not supposed to know anything of this pleasure.

With the following men in office, the Y.M.C.A. look forward to a good season's work:—

President G. Gordon Moe
Vice-President W. Sadler
Sec.-Treas. J. G. C. Fraser
Committee: O. Schafheitlin, L. R. Jones, E. M. Ricker, G. A. Wallace, R. Fiske.

Musical Leader . . . A. E. Hyndman
Advisory Committee: Prof. Klinck, Messrs. Clement and Summerby.

J. G. C. F., '16.

CLASS OFFICERS IN THE SCHOOL OF AGRICULTURE.

Senior Year.

Class '14 was organized for its graduating year at the closing of last session.

The following were the officers appointed:

Hon.-President:

Principal F. C. Harrison, D.Sc., F.R.S.

Hon. Vice-President:

Professor W. Lochhead, B.A., M.Sc.
President H. J. M. Fiske
Vice-President G. W. Muir
Secretary F. L. Drayton
Treasurer B. T. Reed
Committeeman A. O. Schafheitlin

As President of the Senior Year, Mr. Fiske becomes also chairman of the Students' Council and chairman at all meetings of the student body. Under his wise and steady leadership, Class '14 hopes to make things go with a swing in this our final year.

Class '14 Literary Society has also been re-organized under the following men:

Hon. President Prof. Klinck
Hon. Vice-President . Dr. C. J. Lynde
President R. Heustis

Vice-President F. L. Drayton
Sec.-Treas. W. G. MacDougall
Committee . Messrs. Newton & Dougall

CLASS '15.

The Junior Class commenced work with but eight of the original members that constituted the class in nineteen hundred and eleven, but incoming students from the lower years and outside schools have raised the number to twenty. The past president, E. M. Ricker, was re-elected to hold office for the coming year, and A. G. Taylor was chosen as president of the Literary Society. With these men standing at the head of the class, the future can be little doubted.

The remaining class officers are: G. E. Boyce as class vice-president and F. Y. Presly as literary vice-president; secretary and treasurer of the class, L. J. Westbrook; secretary and treasurer of the Literary Society, H. B. Roy.

CLASS '16 REORGANIZATION.

It was not until the evening of September thirtieth, when, for some mystic cause, we all gathered together in one of the rooms of the College, that we, the remnants of Class '16, fully realized how few we were in number. The joy of being once more back at college was greatly lessened by the fact that many of our best classmates found it impossible to return. However, duty called us, and, realizing that what we lacked in quantity we made up for in quality, we got down to business. To guide us in our affairs through the dangerous places during the term we have elected the following officers:

Hon. President Dr. C. J. Lynde
Hon. Vice.-Pres. . Mr. G. E. Emberley
President J. C. Moynan
Vice-President G. C. Hay
Secretary J. H. McQuat
Treasurer C. Lyster
Committeeman A. E. Hyndman

Literary Society Officers.

Hon. President.....Prof. Lochhead
Hon. Vice-Pres...Mr. F. M. Clement
President.....L. R. Jones
Secretary.....G. C. Hay
Treasurer.....C. Lyster
Committeeman.....J. A. Ste. Marie

FRESHMEN ORGANIZE.

A meeting of Class 17 was called on October 13th for the election of the year's officers. The following were elected:

Hon. Pres......Prof. Klinck
Hon. Vice-Pres......Prof. Barton
President.....R. C. M. Fiske
Vice-President.....E. B. Muir
Secretary.....E. G. B. Reid
Treasurer.....G. H. Dickson
Committeeman.....Sam Skinner

Literary Society.

There is an old saying that "quality is better than quantity." This year's Freshman class is generally conceded to be quite satisfactory as regards quantity, but it remains to be proved that we are equally satisfactory as regards quality.

Now, it is well known that there are but few places better than a debating platform for the rapid sizing up of a man's ability. He will there quickly demonstrate, not only his ability as a speaker and thinker, but also many other qualities which fit or unfit him for leadership and responsibilities. It is also known that the platform is useful in developing these qualities. Realizing this, the officers and members of the Freshman Literary and Debating Society intend to do their best to make this year a most successful one for the society. It is expected that several debates will be held before Christmas. These will be more or less

formal in character and widely diversified as regards subject matter, so as to give everyone a chance to speak on a subject in which he is interested.

At a meeting of Class '17, on Oct. 13th, the following officers were elected:

Hon. Pres......Dr. Macfarlane
Hon. Vice-Pres......Mr. A. Ness
President.....G. A. Wallace
Vice-President.....T. B. G. Rankin
Secretary-Treas......A. R. Milne
Committeemen..... {W. T. B. Reid
 {H. C. Bailey

CLASS OFFICERS IN THE WOMEN'S RESIDENCE.

In the School of Household Science, the following have been chosen as class officers for the term:

SENIOR HOUSEKEEPERS :

President.....Miss G. Cox

JUNIOR HOUSEKEEPERS :

President...Miss Ethel Wathen
Sec.-Treas....Miss E. Robinson

HOMEMAKERS :

President.Miss Alexina Carlyle
*Sec.-Treas.*Miss Isabel Sutherland

A Home Economics Club has been organized with Miss A. C. Yuill as president and Miss Katherine Bastedo as vice-president.

The following class officers were elected in the School for Teachers:—

MODEL CLASS :

President.....Miss Olive Tait
Secretary.....Miss Alice England
Treasurer..Miss I. Le Messurier

ELEMENTARY CLASS :

President.....Miss Myrtle Lay
Sec. Treas...Miss Edith Le Gallais

SCHOOL FOR TEACHERS LITERARY SOCIETIES.

The School for Teachers has recently organized its Literary Society, the officers of which are:—

<i>Honorary President</i> ...	Mrs. S. Laird
<i>President</i>	Miss M. Price
<i>Secretary</i>	Miss P. Bowers
<i>Executive</i>	{ Miss J. Hamilton
	{ Miss R. Tenny
	{ Miss F. Howard

separately twice a month, the meetings taking the form of debates, impromptu speeches, recitations and musical selections.

THE NEW UNION CHURCH.

The dedication of the new Union Church and installation of the Minister, the Rev. Norman MacLeod, B.D., took place on Sunday, October 12th, 1913.

It is interesting to note that this is the first church of its kind in Canada. The



In the Women's Residence.

The Society meets every two months and, owing to the time which is given for preparation, our meetings should be very profitable and enjoyable.

Besides this one general society, there are four smaller organizations among the different sections. These meet

crowded schoolhouse, where the Union services had been hitherto held, testified how urgently a more spacious building was required to meet the needs of the congregation.

The three services were very largely attended. There were many Macdonald

students present both in the morning and evening.

The preachers were:—

Dedication Service, 11 a.m.,

The Rev. Prof. Warriner, M.A., D.D.

Young People's Service, 3 p.m.,

The Rev. Robt. Johnston, M.A., D.D.

Installation Service, 7 p.m.,

The Rev. S. P. Rose, M.A., D.D.

they were entertained at a Social to celebrate the opening of the new church.

The program consisted of a number of addresses and solos. The Rev. Mr. McLeod gave an address of welcome, and was followed by Messrs. MacKenzie, Innis, Professors Kneeland, Laird, Snell, Klinck, and Oliver Craik, while the solos were rendered by Mr. Moule.



THE STUDENTS' COUNCIL.

First Row—(left to right)—Miss Macfarlane, Miss Cox, Fiske (President), Miss Tait, Husk. Second Row—Reed, Miss Wathen, Miss Biltcliffe, Miss Lay, Miss Carlyle, Muir. Third Row—Schafheittlin, R. Fiske, Ricker, Moynan, Moe.

The singing was excellent. We were fortunate in having two soloists from Montreal, and Miss Rollins as soloist at the evening service. The choir sang an anthem at both services.

Monday evening, October 13th, is an evening that will be remembered by the Macdonald students of agriculture, when, through the kindness of the members of the Union Church of St. Annes,

Refreshments were then served, at which every one took part, and we must congratulate the ladies upon the quantity and quality of the same. After refreshments, Mr. Craik was heard to remark that he had drunk several cups of coffee, eaten a number of pieces of cake, and also three plates of ice cream, but he would rather have had only one piece of cake, had a plate of ice cream; and

have had the Macdonald ladies present; at which Mr. Fiske shouted, "Here, here!" Refreshments were followed by an auction sale of cake, after which the Macdonald students might have been seen going home with a cake under each arm. In short, we had a very pleasant time, and are grateful to the members of the Union Church.

J. H. R.

MR. P. F. BENSON.

The Macdonald students enjoyed a rare and unexpected pleasure on the afternoon of October 10th, when Mr. F. R. Benson visited the College and gave an address in the Assembly Hall. It was indeed a great privilege to hear the great Shakespearean actor speaking to us in such an unprofessional attitude.

Mr. Benson's father was once the Archbishop of Canterbury, and Mr. Benson himself was a fellow student with Dr. Peterson of McGill. At college, he distinguished himself on the athletic field and won the championship as long distance runner.

Later Mr. Benson went on the stage and has become the foremost Shakespearean actor of the day. He is manager of the Stratford-on-Avon Theatre, where all of Shakespeare's plays have been produced, except two.

He is not only actor and manager, but also a trainer of actors, and ninety of his pupils have gained, or are gaining, renown in Shakespearean *roles*.

Mr. Benson's address was most educational. He spoke of the hope of the coming generation and the absolute necessity of getting back to a more simple life and to an appreciation of the beauties of nature if we would save the next generation from a civilization as harmful almost as barbarism. Yet, Mr. Benson said, "Do not mistake me for a pessimist; I think the twentieth century will be the great century of the world."

We, the teachers of the future generation, felt the truth of his convincing words, and the high idealism of Mr. Benson's speech was appreciated by all the students.

A. M. B.

MUSICAL ITEMS.

We take this opportunity of extending a hearty welcome to Mr. G. A. Stanton, L.R.A.M., A.R.C.M., recently appointed resident organist and music master.

Mr. Stanton comes to us from England, where he has been engaged in many branches of musical education work, and we sincerely hope he will enjoy his stay at Macdonald College. He was organist and choirmaster of St. Mark's, South Farnborough, for twenty years, and conductor for "Elijah," "St. Paul," and other choral works.

Several musical activities have already been re-organized by the students with Mr. Stanton's kind assistance. The orchestra has been brought to life again and a Glee Club formed. With such an enthusiastic and able director as Mr. Stanton, and with so much talent amongst us, all the students are looking forward to a banner year in the musical activities of our college.

INITIATION.

"Have you seen the notice of the lecture this evening?" and, "Did you know we have a lecture after tea?" were questions which flew from girl to girl of the Freshies. "Oh yes," came serenely from the Seniors (to whom we Freshies turned instinctively for light on any doubtful subject), "you must become accustomed to that as you'll have them quite often." That lecture, although followed by no other as yet, was a memorable one for all the Freshies.

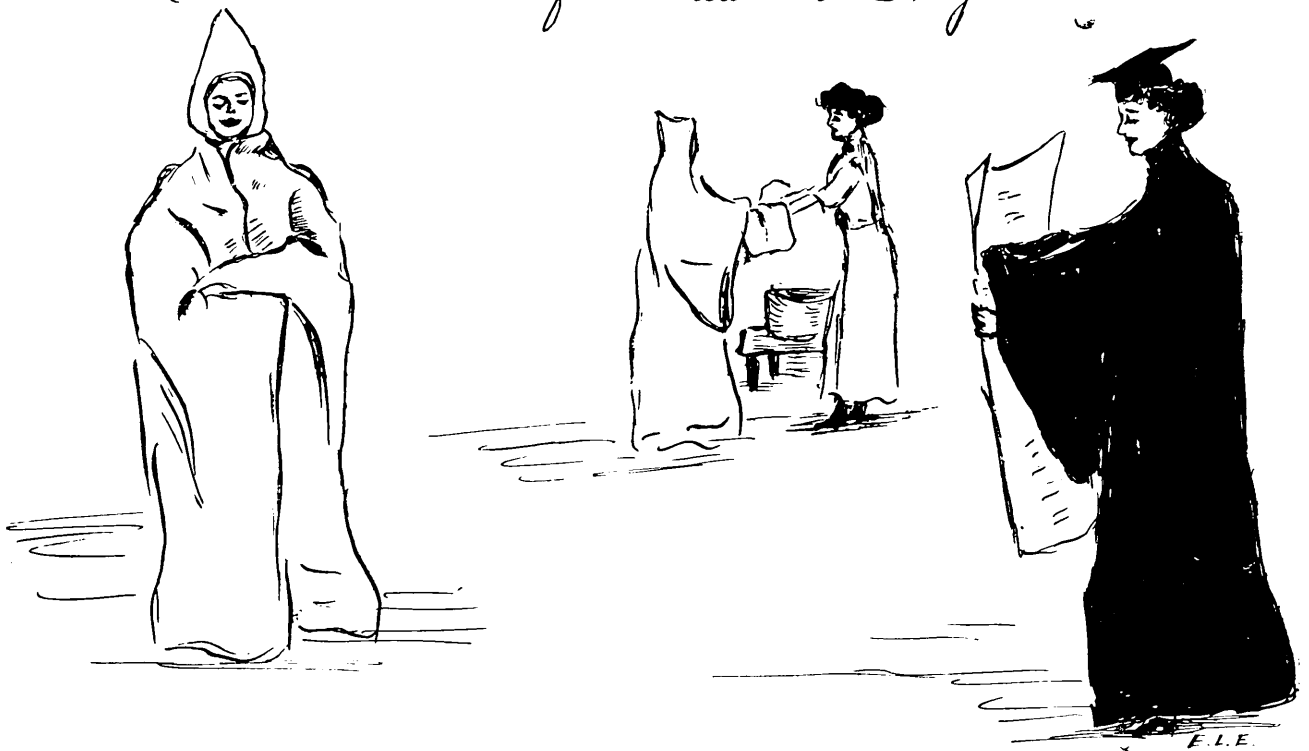
When the class had assembled in the gymnasium Dr. Macfarlane was pre-

sented by Miss Amy Moore. He gave a most interesting lecture, but on this occasion (most strangely) it was hard to hold the attention of the class. Some rumors had gotten afloat as to why we were here, and every girl was straining her ears for the first indication of anything unusual. Still, the moment was unexpected when the lights were extinguished, and from the rear came blood-curdling screams; and lo, there appeared from out of the darkness many ghostly figures! Every girl jumped up

with great delicacy, that "ignorance is bliss" in some cases, but for Freshies—"deplorable," so the seniors had gathered here to "enlighten the darkness of our minds."

Then Miss Helen Armitage eloquently delivered an inspiring oration, full of "seniorly wit and wisdom," which latter we concluded had been gained by previous experiences. For instance,—we needn't rush madly through the halls at the sound of the dinner gong as the food wouldn't run away, and any one

Reminiscences of Initiation Night.



in alarm,—the lecturer alone was undisturbed. In fact *he* seemed pleased with the arrival of these shrieking phantoms. As he calmly stepped down from the platform each girl felt that her doom was sealed.

On they came in solemn procession, led by several black-robed dignitaries. It would be hard to do justice to the "stateliness" of these shrouded forms.

They all marched to the table, and an opening speech was touchingly read by Miss Olive Tait. It was pointed out,

caught blowing out the electric light would be sent to Dr. Walker to have her lungs examined.

The "Oath of Allegiance"—which contained valuable points on "etiquette and courtesy"—was read by Miss Jessie Carter, and each Freshie humbly (figuratively) knelt and signed it.

The ghosts then stalked amongst us, picking out their victims. We were marched to the front, face and hands washed in salt water, and conducted to a door of the gym. leading to the basement.

Beyond, all was dark and gruesome. Here we repeated our motto—"Mastery for Service" to a senior. One girl in the intense excitement of the moment repeated the well-known line, "God be with us till we meet again." We were then conducted down tortuous stairs where a white form stood, which administered a dose of brine. This spectre, may it be said, had a very strong arm for a shadow. In turn we shook and kissed the soapy hands of our "superiors."

Down more stairs, carefully led by a gentle guide, down again, and then blindfolded. The sound of splashing water greeted us, and gave courage and assurance to those who could "*not*" swim. One by one the Freshies were led up the plank and—landed safely on the floor. After that a senior pounced down upon her unfortunate prey and led her away to the reception room, where we waited until all had been through the torture chamber. This respite gave us time to smooth our outraged feelings, and wonder what would be done to us next.

Those who had been "very fresh"—and there were not a few—received special attention from the seniors. One of the girls had been locked into a room, but escaped through the window and joined her colleagues in the reception room.

When the last Freshie had walked the plank we all went back to the gym. Six or seven of the "hyper-fresh" girls had to execute a few stunts. A molasses feed, a cat fight and some nursery rhymes furnished amusement both for the doers and spectators. "Hie-diddle-diddle" was very musically sung by one of the leading Freshies.

The refreshments were next served. This was the only item on the evening's program which was not compulsory, but it was executed with as much good nature and grace as distinguished the

entire evening. Everything was enjoyable, and the seniors proved themselves ideal hostesses. The dainty ices were a balm to our wounded spirits and restored a feeling of good fellowship. So we departed—convinced that initiation was not so dreadful after all.

A. M. B., '13.

"ALL'S WELL THAT ENDS WELL."

One evening in September, as we were partaking of our peaceful evening meal, little did we know what an awful doom awaited us. As we filed out and around the bend of the corridor, we heard the muffled tolling of a bell. Then an appalling ghostly figure burst upon our vision. There in the gloom this tall figure arose, clad in white, with a huge black cross upon her head; her arms stretched forth, holding out the lights by which we read our fate, which was outlined briefly on a placard.

As instructed, we all assembled in the alcove at the required time. When deep in rapt attention, unearthly shrieks which filled our hearts with terror, arose from below. Then appeared the spokesman, arrayed as a Zulu war chieftain, speaking a language foreign to our ears, but, nevertheless, clearly emphasizing what we had to do.

Blindfolded, we groped our way down winding stairs until commanded to halt and finish our downward journey by sliding down a plank. With a sudden bump we reached the bottom, and were greeted by a weird, shrieking goblin with a slimy hand. Struck dumb with terror, we reverently kneeled and slowly repeated an oath of allegiance to our seniors. This read as follows: "We, the Junior Science, do humbly take the Senior Science Girls, for better or for worse, to be our superiors in all things, and to love and to cherish them accordingly, from this day forward until June do us part."

Looking very weak and exhausted after the last trying ordeal, we were given a stimulant, which consisted chiefly of salt and water. Thinking our trials over, we were told to report at the gymnasium. But, alas! here each pale-faced freshie was led before the court to perform to the best of her ability.

Before being dismissed we were refreshed with something better than our briny drink, in the nature of ice cream and cake. After cheers and college yells, we retired to Blanket Town.

B. M. MACF., H. SCI., '14.

THE JUNIOR HOUSEHOLD SCIENCE ALPHABET.

- A is for the Alcoves,
Have you heard of them before?
Yes, when the Court of Honor meet
They're mentioned o'er and o'er.
- B is for Bacteria,
Whose size, we've learned to know,
Is not at all proportionate
For such a powerful foe.
- C is for the College dear,
Of which we form a part.
Already it has found a place
Of honor in each heart.
- D is for the Dining-room
Which claims us one and all.
But, oh, can you forget, girls,
Your first meal in that hall?
- E of course, is for Exams,
Which always hover near
The dwelling-place of students
Each week, and month, and year.
- F is for Miss Fisher,
Whom we all love and admire,
And who, perhaps unconsciously,
Compels our standards higher.
- G is for Gymnasium,
Our rendezvous for sport,
But splendid training, too, we get—
'Tis a popular resort.
- H is for the Hospital,
We dread it a good deal,
But for the fact that it is here,
We also grateful feel.
- I nitiation, then Ice-cream,—
This "I" holds things mysterious,
For long 'ere we our freedom gained
We were well-nigh delirious.
- J certainly stands for Jelly,
And what does that recall?
Equipment, apples, pectin, heat,
And the fear that filled us all.
- K is for the Kitchen
Where our Cooking-class we take.
How much we there must learn and
do,
And not an error make!
- L is for our Laundry-work,
The Library, too, we'll mention,
For each of these require from us
Considerable attention.
- M Macdonald Magazine,
(We work for it with a will),
Millinery, Montreal,
"Mastery," and McGill.
- N is for the noisy Noise
We never dare to make
Between the hours of eight and
ten—
All for our studies' sake.
- O is for the Ottawa,
On whose left bank we live.
But mighty bards have sung of
her,
So a brief word here forgive.
- P stands for our Post-office,
More popular than the Gym,
And for some it is filled with mystery,
Will there be any mail from *him*?
- Q is for that queer feeling
When first we are quite sure
Responsibilities rest on us—
A strain we must learn to endure.

R Reception-rooms and Rules,
Familiar to each lass.
But for some perhaps the "R" may
stand
For a Ring not worn in class.

S is for our Saturdays—
One star-day in each week,
When we may visitors receive,
And to them really speak.

T is for our Time-table,
So very wisely planned,
Though rather difficult at first
Were its ways to understand.

U will stand for Unity,
Which must of needs be rife,
If each of us assembled here
Is to enjoy real College life.

V must be for Vanderleck,
Of bacteriology fame.
If we in this class fail to pass,
We must our own selves blame.

W is for Wisdom—
A steady march uphill,
But here we should remember
To win means to work with a will.

X is a correction mark
Of rather inferior style.
We hope no Junior Science girl
Will merit this rank and file.

Y must be for Youthful Years,
—At College there are plenty,
And by this Youth we do not mean
All being under twenty.

Z is for Miss Zollman,
Who earnest, patient, kind,
With a knowledge of stitches, pat-
terns, goods,
Tries to instil each mind.

And thus we might re-write and write
To give our College its due,
But give to Macdonald the best that
you have,
And the best will come back to you.

—"Fidelis."



Faculty Items.



THE first meeting of the Macdonald College Club for the academic year was held on the evening of October second. After the President, Mr. M. A. Jull, had briefly outlined the object of the Club, and had extended a cordial invitation to all new members of the faculty and administrative staff to take membership, he called upon Dr. Peterson, Principal of McGill University, to deliver an address on "Co-operation." Principal Peterson's intimate acquaintance with, and active participation in, co-operative movements in many widely-separated fields of activity qualified him, in an unusual degree, to speak upon this subject. Dr. Peterson, during the course of his address, was closely followed by an appreciative audience. Miss Rollins contributed much to the enjoyment of the evening by rendering a solo in her usual acceptable manner. Mr. Stanton called forth much favorable comment by his rendition of two numbers on the violin.

The personnel of the teaching staff, aside from a few important changes, remains practically the same as for the session of 1911-'12. Dr. S. B. Sinclair, who for the past five years has been head of the School for Teachers, has been succeeded by Professor S. Laird,

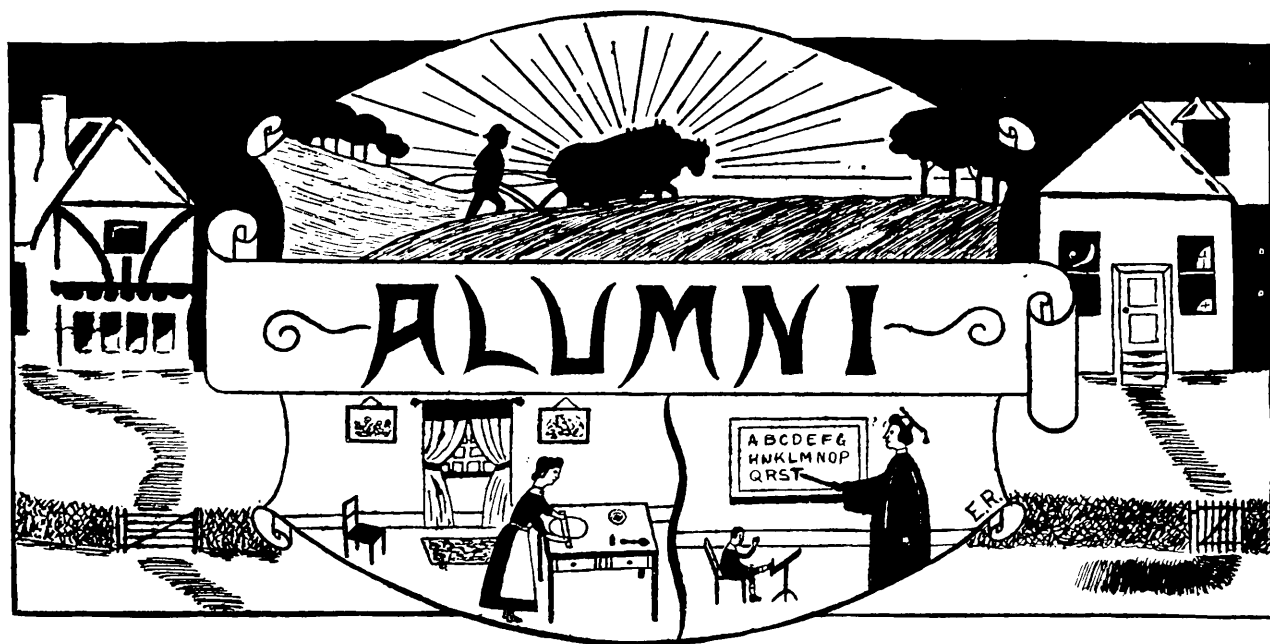
M.A. Mr. A. Norman Shaw, M.Sc., has been appointed lecturer in the Department of Physics. Miss Louise Wetmore, assistant in Manual Training, has been succeeded by Mr. J. W. Milne. In the Practical School, Miss Alice M. Brownrigg succeeds Miss Janet T. Greig. On the administrative staff, Miss Jessie MacNaughton, housekeeper, has been succeeded by Mrs. Edith M. Crowell, and as assistant housekeeper, Miss Laura I. Macfarlane has been succeeded by Miss Helena J. MacNaughton.

The following new positions have been created and appointments made: Mr. G. A. Stanton, L.R.A.M., A.R.C.M., instructor in music; Miss Ethel A. Roberts, assistant instructor in physical culture; Miss Frederica Campbell, demonstrator to Women's Institutes in the Province, and Miss Winifred C. Thompson, instructor in drawing and household art.

It is particularly gratifying to know that the work done by the College is being so favourably received by the constituency it aims to serve, and that such frequent additions to the staff are necessary in order to meet the increasing demands for instruction at the College and demonstration work throughout the Province.

L. S. K.

"The pasture, and the food of plants,
First let the young agriculturist be taught:
Then how to sow, and raise the embryo
seeds
Of every different species."



R. HUSK, MISS DE VILLIERS, MISS O'CONNOR, EDITORS.

AGRICULTURE.

Carl C. Davis, '14, is married and living in Brome Co., Que.

A. F. Hand, '15, is running his farm in Greenwich, Washington Co., New York.

M. M. Hart, '13, is in the real estate business in Hamilton, Ont.

Clark E. Walker, '15, is farming at his home, South Byron, New York.

Harold J. McConnell, '14, is in the insurance business, Sherbrooke, Que.

John W. Graham, '14, is at home, Glen Murray, Que., and intends coming in for a special course during the winter.

O. Lemoine, '16, is in Montreal. He intends taking a course in medicine, starting in 1914.

"Doc." Howard, '15, is practising scientific agriculture at Smiths' Mills, Que.

C. De Roo Van Aldereverelt, '14, paid the College a visit recently. He is leaving Canada for Java.

D. McDiarmid's present address is Entwistle, Alberta.

Q. Maclaren, '15, is continuing his course at Guelph this year.

J. L. Van Vliet, '14, is leading a somewhat varied life. His home is Lacolle, Que.

Charles Martin, '16, is at his home, Martinville, Que.

G. S. Paxton, '15, is married and living on a poultry and fruit farm, at St. David's, Ont.

R. J. Westgate, '14, looked so happy when last seen that we wonder if anything new has occurred to him.

A. M. Snowdon, '16, paid us a visit recently. He reports Le Petrie as having taken himself to the tall timbers.

Charles Smith, '16, is ranching near Red Deer, Alberta.

SCHOOL FOR TEACHERS

Miss Mabel Mills, president of Class '13, is Principal of the Model School at Marbleton.

Miss Muriel Carter, Elem, '13, has charge of an Elementary School in New Richmond, Bonaventure County.

Miss Dorothy Slack and Miss Mary Couper, both graduates of Model Class '13, are teaching in Lansdowne School, Montreal.

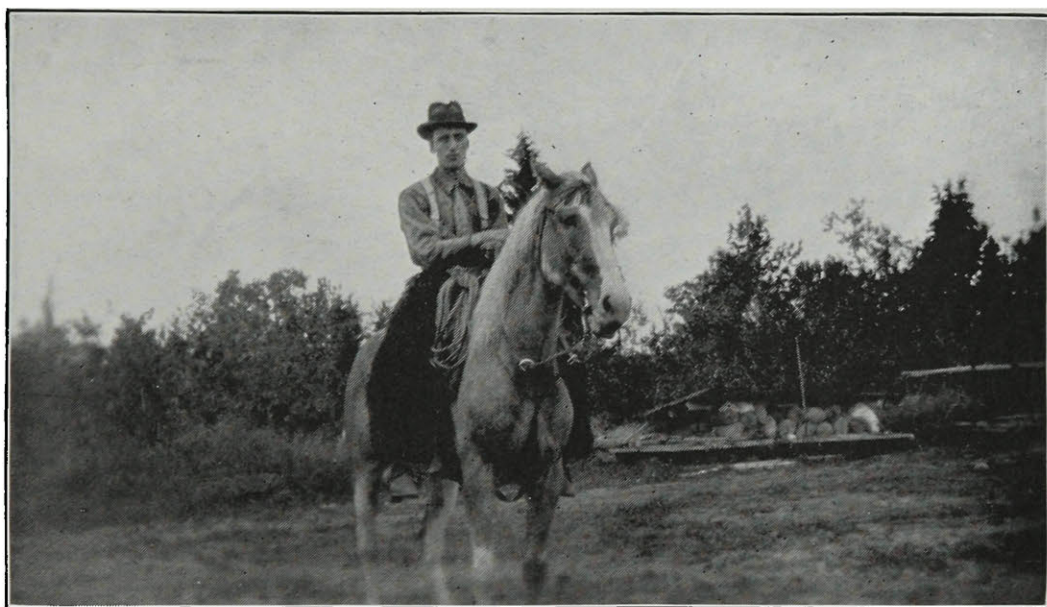
The Misses Alice Bruneau, Bessie McGibbon and Alice Pratt, all members of Class '13, are teaching in Earl Grey School, Montreal.

Miss Marion England, Class '13, is teaching in Belmont School, Montreal.

Miss Edith Bothwell, Class '13, winner of the Governor-General's medal for teaching, is now putting her theory into practice in St. Francis College, Richmond.

Misses Shirley Ross and Amy Chadwick, Class '13, are teaching in Delormier School, Montreal.

The Strathearn School has among its teachers several Macdonald graduates, including Misses Helen Reid, Grace Whiting, Beth Elliot, and Myrtle Cameron.



Chas. Smith, B.B. (Broncho Buster).

Miss Hazel Quigley and Miss Helen Lanskill, Class '13, are teaching in Royal Arthur School.

Miss Christena Armitage, winner of the J. C. Wilson medal of the Elementary Class '13, is teaching in the Aberdeen Model School, Montreal West.

Miss Bessie Reichling, President of the Athletic Association in '13, and Miss Sybil Runk, '13, Baseball Manager, are teaching in Dufferin School, Montreal.

Miss Muriel Husbands, Class '13, is teaching in Alexandra School, Montreal.

Miss Eleanor Lindsay, Elem. '13, has charge of an Elementary School in Lanse-aux-Cousins, Gaspé.

Miss Marjory Palmer, Class '13, is teaching in Sherbrooke High School, Sherbrooke, Que.

The attractions of the West must have been too great for Miss Marion Whyte, Elem. '13, as she is now living in Calgary, Alta.

Miss Violet Joss, winner of the Prince of Wales' medal in the Model Class '13, is teaching in Fairmount School, Montreal.

Miss Bertha Echenburg, Class '13, is teaching in Alexandra School, Montreal.

Miss Ethel Roy, Pres. Elem. Class '13, is teaching in St. Henry, Montreal.

HOUSEHOLD SCIENCE

The Misses Enid Fee, '13, and Dorothy Webster, '13, are doing some settlement work in Montreal.

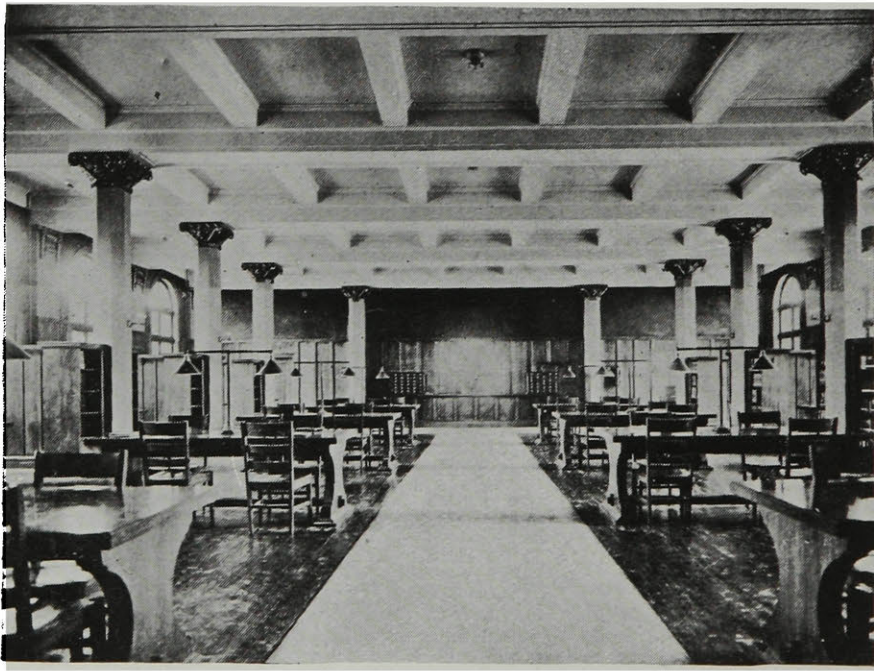
Mrs. Crowell, '12-'13, is the House Director of the Women's Residence, Macdonald College, and has as her assistant, Miss Helena MacNaughton, '12-'13.

Miss Phyllis MacEwen, '13, visited the old country this summer and is now attending the Ladies' College at Ottawa.

Miss Winifred Ross, '12-'13, paid us a flying visit on her way to the West, where she hopes to take a position.

We have also had visits from Miss Eileen Joyce, Montreal, and Miss Boyd, Cornwall.

Miss Susie Mutch, '13, is teaching Household Science in Vancouver, B.C. We wish her every success in her new work.



The Library.

Macdonald College Agricultural Alumni Association Notes.

1911 GRADUATES.

W. H. BRITTAIN, B.S.A., who has been holding the position of "Provincial Plant Pathologist" for B.C., paid a flying visit to Macdonald en route to take up his duties as Professor of Zoology and Provincial Entomologist at Truro, N.S.

R. W. D. ELWELL, B.S.A., has severed his connection with the education department of the Province of Alberta and has bought a farm at Stony Plain, about twenty miles from Edmonton. Here he proposes to specialize in poultry and horticulture and invites callers.

A. SAVAGE, B.S.A., spent the summer at Macdonald doing investigational work in the Bacteriology Department, and has returned to pursue his studies towards a D.V.M. at Cornell. Success to Alf.

G. WOOD, B.S.A., has been appointed assistant in Animal Husbandry at the Manitoba Agricultural College. Manitoba needs good men and is getting them.

1912 GRADUATES.

Since last the MAGAZINE was published, W. W. BAIRD, B.S.A., has been appointed as Superintendent of the Experimental Farm at Nappan, N.S. Why lie is the man on the job.

R. S. KENNEDY, B.S.A., has taken up a farm at Lacombe, Alta., and spends his leisure moments travelling for the C.P.R.

E. A. LODS, B.S.A., is still interested in potash, but has changed his headquarters to Truro, N.S. This is now his address.

L. C. RAYMOND, B.S.A., has given up the position of College demonstrator and has been appointed as assistant in Cereal Husbandry at Macdonald College

1913 GRADUATES.

E. M. DUPORE, B.S.A., is working with the Biology Department of Macdonald College. Here this noted "bugologist" pursues his chosen line. At present he is investigating life histories, etc., of some insects as found in Quebec Province.

W. D. FORD, B.S.A., is situated at Huntingdon, P.Q., as district representative or, as he says, "Reprobate." We are convinced that he is prospering, although he did murmur something about a "dynamite cure."

A. C. GORHAM, B.S.A., is assistant in Horticulture at Macdonald College. Our Alma Mater should presently turn out some more melon experts, if his teachings prove fatal.

J. K. KING, B.S.A., as District Representative for Pontiac County, is "cock of the walk" at Shawville, P.Q. As such, his most serious business just now seems to be the managing of an egg circle.

G. LELACHEUR, B.S.A., has returned to his native haunts in "the island" (P.E.I.). Here he wields the baton of Dominion Seed Inspector with his accustomed skill.

B. RICHARDSON, B.S.A., has charge of two demonstration orchards in Quebec Province, one at Abbotsford and one at Covey Hill. He announces light crops in both and consequently a similar supply of labor.

J. S. DASH, B.S.A., has gone to British Columbia, where he is continuing to give his attention to parasitic and other fungi affecting fruit.

V. MATTHEWS, B.S.A., is located at Lethbridge experimental farm in Alberta. Report has it that he has an easy time and that the work is agreeing with him.

WEDDING BELLS.

INNES-HEMMING.—A very pretty wedding took place at Ottawa on June third, when Miss Charlotte Loyd Hemming was united in marriage to Mr. R. Innes, of Toronto. Both the contracting parties are old Macdonaldites and

they were both favorites in their respective spheres.

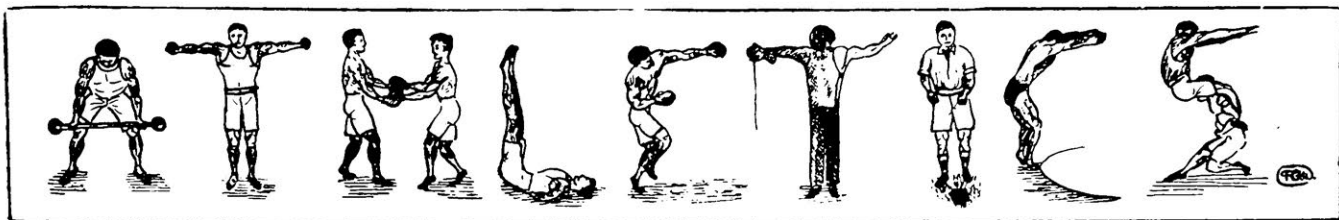
The newly married couple spent their honeymoon in touring the Eastern Province and are now residing in Toronto.

GORHAM-TANNER.—Another pleasing event of the same nature as the above took place at Joliette, Que., at the home of Mr. and Mrs. S. Vessot, when their niece, Miss Marie Tanner, was married to Mr. R. P. Gorham, of Fredericton, N.B. Mr. Gorham was a 1911 graduate in Agriculture and Miss Tanner is a graduate of 1912 of the School for Teachers. The happy pair are living in Fredericton, N.B., at 243 Smythe St.

A SONNET.

Oh! Many a time and oft my brain has sung
 Its praise of the mem'ries of past years,
 And ev'ry dish in Fancy's train appears.
 My favorites in the days when I was young,
 Planked steak and mushrooms or perhaps cold tongue
 Before my fancy fly. I gulp my tears,
 And try, with smiling face to hide my fears,
 When all my hopes are in the balance flung.
 But why to this sad tale add any more?
 Why write more of this simple balderdash?
 It only serves to keep me ever sore,
 And also serves to keep me minus cash.
 For every time I ope' the dining door,
 This music strikes my ear:—"It's Rice or Hash!"

—*From Lighter Vein.*



ATHLETICS are attracting the attention of the student body more this year than in former years—and rightly so. Young men of to-day are waking up to the fact that they must take part in athletic training

taking exercise and thus improving himself physically.

The re-organization meeting of the College Athletic Association was held on the evening of Friday, October 3rd, to elect officers for positions on the committee made vacant by the resigna-



Men's Athletic Association Committee.

in some form or other, to improve and strengthen their moral as well as their physical condition. Competition in the many sports and games develops a spirit of fairness in a fellow to such an extent that it becomes a part of his character. At the same time he is

tion, or absence, of some of last year's men. The officers of the association are: Dr. Harrison, Hon. Pres.; Mr. F. M. Clement, B.S.A., Hon. Vice-Pres.; G.W. Muir, '14, Pres.; E. M. Ricker, '15, Vice-Pres.; H. I. Evans, '15, Sec.; C. H. Hodge, '14, Treas. The men represent-

ing the different years on the association committee are: Wilcox, '14; Huessit, '14; Roy, '15; Presley, '15; Jacks, '16, Hyndman, '16; Powell, '17; Bailey; '17. At a meeting of the athletic committee held Tuesday, October 7, it was decided to hold the Annual Field Day, Thursday, October 23rd. This will be the opening day in the series of inter-class competitions and also in the united college athletics. So we are looking forward with great expectancy, hoping that we shall have an ideal day on which to set new records for the men who come after us.

The sportsmanlike spirit of our new students showed itself soon after their arrival, when, on Saturday, October 4th, they challenged the rest of the college to a game of base-ball. The game resulted in an easy victory for the college by a score of 17-3. The play was slow and one-sided throughout the game, but in spite of this, great enthusiasm was shown by both the players and spectators. The following are the line ups of the teams:

Freshmen	vs.	College.
Maskery	C	Ness.
Russel	P	Evans (Hyndman)
Curley	1st. b.	Hyndman (Evans)
Hand	2nd b.	Jones
Gillespie	3rd b.	Hay
Skinner	S.S	Craik
Cooper	R.F.	Mitchell
Wallace	C.F.	Presley
Dickson	C.F.	Gordon

Owing to the short season left for outdoor sports after the opening of college, baseball is not played to any great extent, and, as a rule, the Freshmen-College game is the only exhibition of baseball we have.

During the fall months soccer is the popular outdoor sport among the stu-

dents. This year, however, only a fair amount of interest has been taken in team practice. So far the same few men have turned out afternoon after afternoon for practice, with the result that the play has been a little slack. To put a winning team in the field and keep it winning we must have the co-operation and interest of the whole student body. If a fellow is not on the team playing, his place is on the side lines cheering the men along. This is not alone true of soccer but of all our college sports. The management of the team this year is in charge of Dr. C. J. Lynde (manager) and O. L. Jacks, '16 (captain). With such officers in charge and the amount of excellent material now in the college there is no reason why we cannot put a winning team in the field.

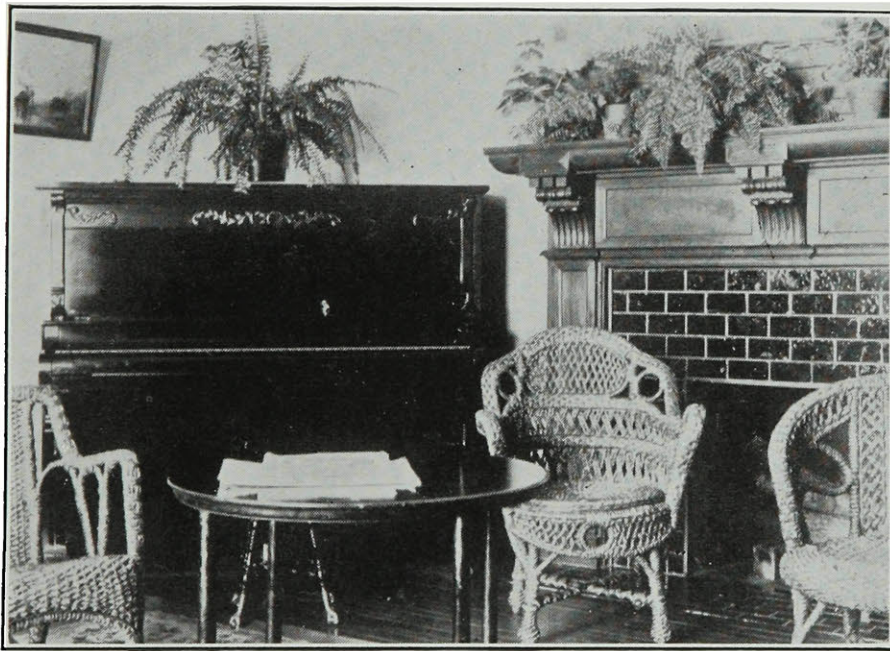
The first game of the season was played on Wednesday, October 15th, against a team from McGill. The result was a decided victory for the college by a score of 2-1. Throughout the game the play was fast. The McGill men had more team play than our men but were weak in the defence. Our team, on the other hand, was well balanced in forward and defence lines, but the players persisted in long individual runs which resulted in their loss of several goals. The line ups were:

McGill	Macdonald
Hale	Goal. Jones
Johnston	Rt. B. Roy
Bolt	Lf. B. Hodge
Skeete	Lf. H. B. Wilcox
McPherson	C. H. B. Hay
Hinton	Rt. H. B. Lyster
McCormack	Out. Rt Jacks
Hatcher	In. Rt. Viane
Newsan	C. F. Huestis
Gardiner	Out. Lf. Skinner
Williams	In. Lf. Gaetz

Owing to the fact that the college session opens so late in the fall the students have only a short time to devote to outdoor sports. Hence courses in indoor athletic training are opened early for those who wish to participate in them. This year, owing to the untiring energy of our physical instructor, Mr. Sharpe, great interest has been aroused among the students in the gymnasium exercises. Besides these exercises, classes have been opened in

boxing, wrestling, and fencing. These classes take especially well with the students, and undoubtedly Macdonald will be well represented in the city championships next spring.

As the session grows older and our teams become more numerous and better trained, let us all strive to prevent the growth of class spirit to such an undue extent that fairness and good sportsmanship are lost in the wild endeavour to win at any cost.



A Corner in the Men's Reception Room.

Girls' Athletics.

MISS TRAVERS, DITOR.



ON the evening of September 18, 1913, a meeting of the Girls' Athletic Association was called, and officers for the coming year were elected as follows:—

Honorary President. . Miss Torrance

Honorary Vice-President. Miss Roberts

President . . . Miss Mabel Biltcliffe

Vice-President . Miss Isabel Dettmers

Secretary Miss Martha Brooks

Treasurer . . . Miss Lillian de Villiers

Basket Bal' Manager . . . } Miss Hazel O'Connor

Basebal' Manager . . } Miss Margaret Brown

Class Representatives:

Senior Science . . Miss Yuille

Junior Science . . Miss Macfarlane

Model Class Representative:

Miss Crippen

Elementary Class Representative.

[Miss Harris

Through the generosity of Sir William Macdonald, there has this year been added to the staff an assistant in physical training. Miss Ethel Roberts, a graduate of McGill School of Physical

Education, was selected to fill this position. She fills it ably; and as a good part of her work consists of coaching the girls' baseball and basket-ball teams, Macdonald should make a better showing this year in athletics than ever before. Baseball and basket-ball practice is almost a nightly occurrence, and the number of girls who turn out shows the keen interest that is being taken in sports. There is much good material and we hope to produce some fine teams.

The Athletic Association decided to join the league with R.V.C., Montreal teachers and W. A. A. A tennis club has been organized, and R. V. C. has sent a challenge for tennis, which Macdonald has accepted. Games will be played in the middle of the month.

The swimming tank comes in for its share of popularity also. Land swimming lessons and practice in the tank are going on with a will, and we hope that Christmas will find every Macdonald girl at least a moderately good swimmer.

The prospect is a banner year in all branches of the girls' athletics.

Work for it, girls. It's worth it!

M. B. T.

"Fish don't bite just for the wishin'.

Keep a pullin' !

Change your bait and keep on fishin'.

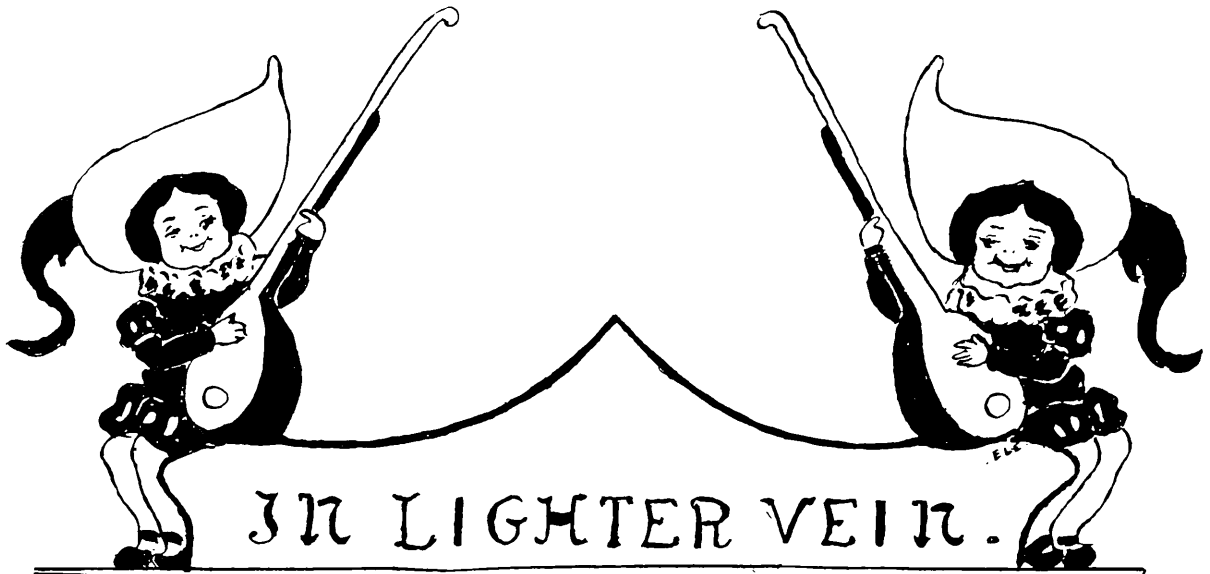
Keep a pullin' !

Luck ain't nailed to any spot;

Men you envy, like as not,

Envy you your job and lot!

Keep a pullin' !"



CHAS. RUSSELL, MISS AYLEN, MISS ALLEN, HUMORISTS.

THE JOKE EDITOR.

In many a College Magazine,
At least in all of those I've seen,
On "humor's" page and in between,
Repeated oft, I find
A worn refrain, which seems to me
To voice a depth of misery,
Which ever was and e'er will be,
The slogan of our kind.

A scene of woe is pictured there,
A wrinkled brow, lined deep with care,
An earnest but an abstract air,
A dark and eerie night.
The thought which seems with sleep to
race
Will ever find its resting place
Upon that sheet so white.

But ne'ertheless in all my dreams
A vision comes, which ever gleams
Upon my tortured mind, and seems
To fairly burn with rage.
For everywhere I seem to see
Vague forms in tortured agony.
Yes! forms which never from me flee,
The readers of this page.

* * *

Student—"May I have the life of
Julius Ceasar?"

Bookseller—"Sorry, Brutus is ahead
of you."

A LOVELY SCENE.

Westood at the bars as the sun went down,
Beneath the hills on a summer's day;
Her eyes were tender and big and brown,
Her breath as sweet as the new mown
hay.

Far from the west the faint sunshine
Glanced sparkling off her golden hair;
Those calm deep eyes were turned
towards mine,
And a look of contentment rested there.

I see her bathed in the sunlight flood,
I see her standing peacefully now,
Peacefully standing and chewing her cud
As I rubbed her ears—that Guernsey
cow.

* * *

Teacher (dictating to Science Class):
"Her choler rose to such a height that
passion well-nigh choked her."

Suffering student's reproduction:
"Her collar rose to such height that
fashion well-nigh choked her."

* * *

The Sun—"Wilt thou!"

The Collar—"I wilt!"

* * *

"For what were the ancient Romans
remarkable?"

"They understood Latin."

A REMEDY WHICH WILL MAKE EITHER YOUR GOOD OR BAD CAKES TURN OUT SUCCESSFULLY.

Use only zinc pans in your baking. Have a bottle of hydrochloric acid at hand. If, when you come to remove the cake from the pan, you find that you have failed to make use of butter, lard, or some other allied substance, just set the pan containing the cake in a shallow bath of the hydrochloric acid. You must watch closely, as a slight delay may mean failure. The instant that the pan has disappeared, remove the cake from the acid. This method will succeed in the most rebellious cases, when a savage attack with a knife might seriously injure the cake and render it unfit for use.

* * *

Skidoo as you would be skidone by.

* * *

[Opportunity knocks but once. Other knockers please copy.

* * *

She—"I'm just cra-a-azy to go to the movies."

Her Wife—"You certainly are."

* * *

How could a little Science girl
Improve each shining minute?
By analysing College hash,
To see what's really in it.

* * *

A—"She had to go to the doctor. You see she was so cross-eyed that when she cried the tears ran down her back."

B—"Yes?"

A—"And he diagnosed her case as bacteria."

* * *

Freshman—"The first thing I sent to the MAGAZINE was accepted."

Another—"What was it? In Animal or Cereal?"

Freshman—"One dollar."

UNAUTHENTICAL ALUMNI NEWS.

(Note—The Editorial Board is not responsible for any of the information found in this column).

It is said that Emberley is working. We wonder where?

Scotty Lothian, like Diogenes, is still looking for the person who dumped him last year—and, like Diogenes, has not found him.

Dash has spent most of the summer investigating the nervous system of a potato.

O'Brien is in Europe studying laws relating to Woman's Suffrage.

Ben Richardson has been appointed Justice of the Peace at Abbotsford, Que.

McClintock, when last seen, was still wearing the same hard hat that he used to wear into our rooms before breakfast.

We would like to announce Bill Gibson's engagement, but, as yet, have no news concerning it.

Sandy Gorham has entered the Freshman Class at Macdonald College. . . . as a teacher.

"Lally" has invented a cubical pea for the Provincial Farmer.

* * *

Lost—In the Assembly Hall on Wednesday, October the first:

The Elementary Yell.

* * *

Earnest Macdonald Student (at the Bonaventure Station)—"Oh, sir, what time does the 5.15 leave?"

* * *

Life is just one fool thing after another; Love is just two fools after each other.

NOTICE.

The Fussers Club has not organized, as yet, for the year, so that the PRUNES AND PRISMS Column, much to our regret, cannot be published until the next issue.

A TEACHER'S LOSS.

CAN YOU IMAGINE ?

Her "Saturday shopping was *gone*.
There seemed to be little left for the
lonely teacher but to hoard and dream
about that one week-end, laying it by,
on the top shelf, for the bleak November
days. BUT...

She was late for lectures by three-and-
one-quarter seconds. (First offence.)

She talked in the alcove after being
once warned. (Second offence.)

She interrupted Miss A.... .. (?)
(Third offence.)

When November came. . . . alas!
. . . . No Week-end.

—George Elliot.

* * *

NEW COLOR SCHEME FOR TEACHERS.

Before entering to teach... Blue!
When entering..... Red!
When beginning to teach.. Green!
Exit teacher. White!

* * *

WANTED.

A buttonhook for Dot Gambles' collar.
Owner of "Oh! Tenny-don't."

* * *

She lost her head when he proposed,
But he, a trifle bolder,
Made search for it distractedly,
And found it on his shoulder.

Grace Reynolds discussing spinsterhood?
Florence Aylen meditating ?
Edith Findley alone on Saturday ?
Mr. Cowan without a girl ?
Bert MacFarlane disinterested in R. V.
ambulance ?
"Tommy" with her hair slicked back ?
Mr. Vanderleck with an Irish accent ?
Alice Pickup in a rush ?
Russell Senior not fussing ?
Ruth Henry without a letter ?
"Billy" Allen speechless ?
Dr. Snell with a gloomy countenance ?
Effie Robinson without a smile ?
A dinner at home ?

* * *

When you're talking in the hall,
And a-havin' lots o' fun,
An' a-laughin' an' a-whisperin',
As if your time had come,
You'd better watch your corners,
An' keep kinder lookin' out,
Or a procter 'll get you
Ef

you
don't

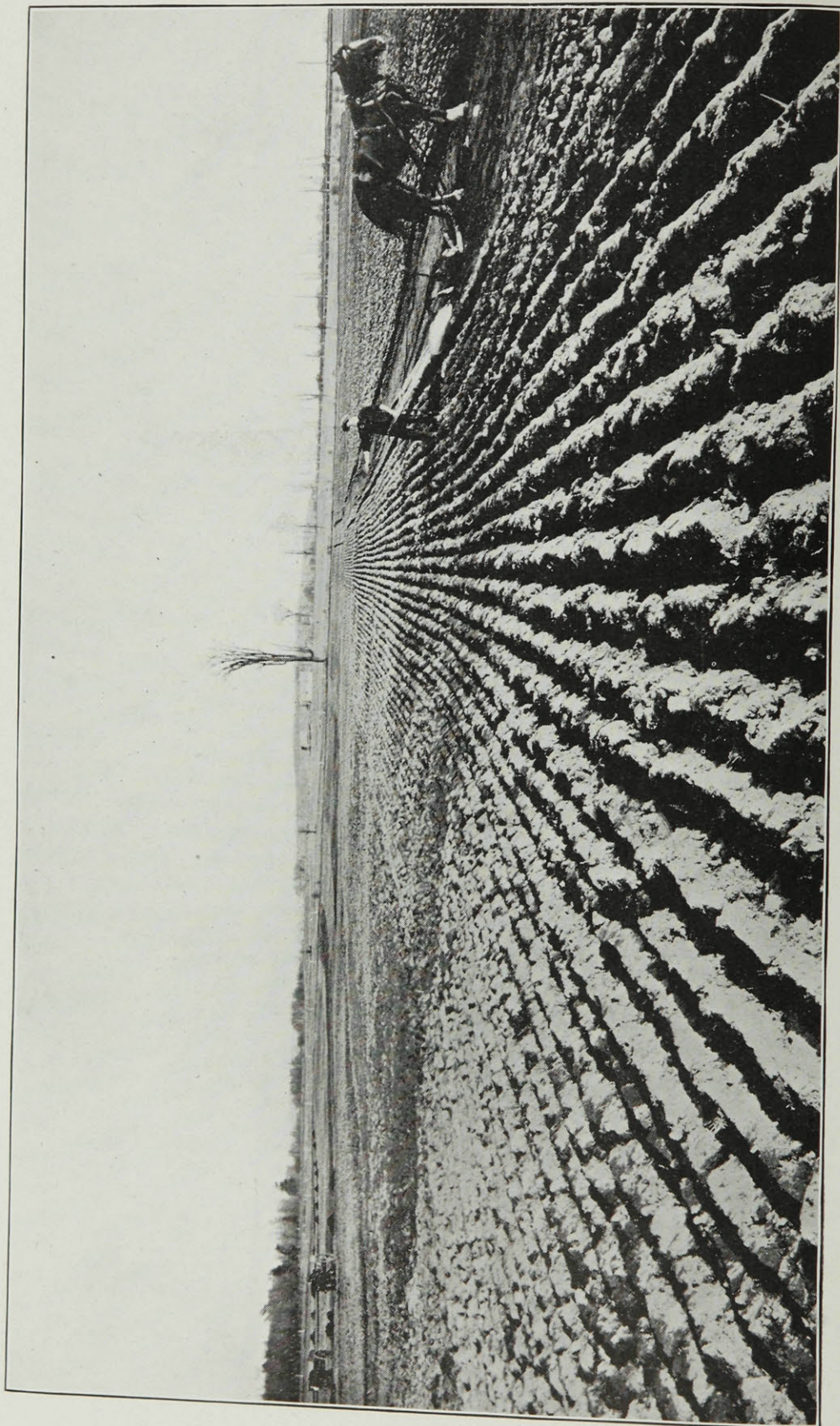
watch
out !

* * *

Stubb Richardson's favorite expres-
sion—"He's a cousin of mine."



THE END



Fall Plowing on the Cereal Husbandry Department at Macdonald College.

The Dominion Experimental Farms System.

By J. B. SPENCER, B.S.A.,

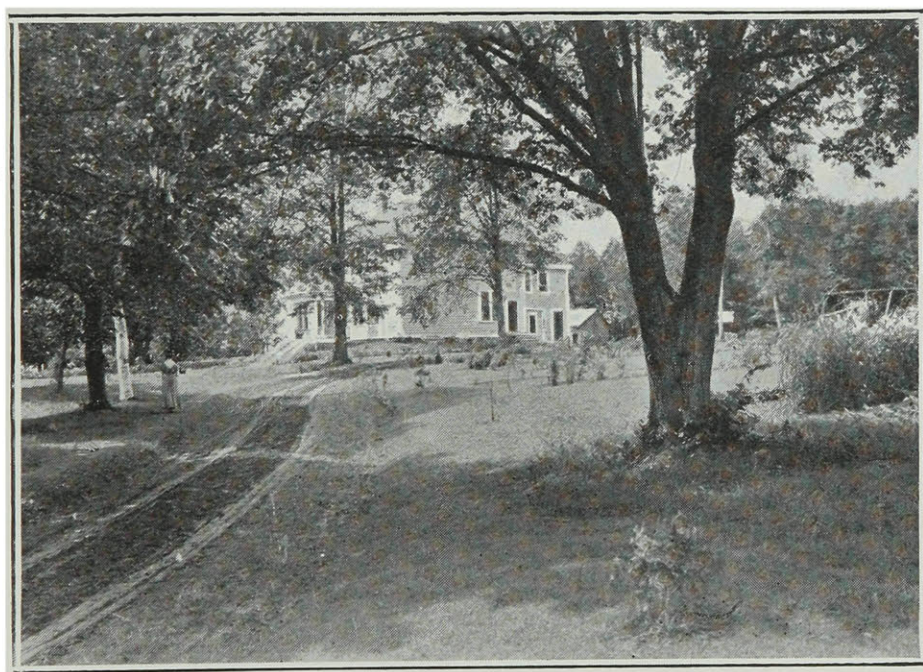
Editor, Publications Branch, Department of Agriculture, Ottawa, Canada.



THE Dominion Experimental Farms System has, for more than a quarter of a century, been carrying on an invaluable work for the cause of Canadian agriculture. Away back, in 1886, it was felt by a few of the most practical thinkers in the House of Commons that the farming industry was, for some reason, not as prosperous as it ought to be. Much

committee showed that there was no lack of fertility in the soil and that climatic conditions were favourable for the production of good crops, but the prevailing depression, it was claimed, was due mainly to a widespread condition of ignorance among large portions of the farming community.

The committee recommended the establishment of experimental farms where experiments should be con-



Main Drive, Experimental Farm, Charlottetown.

of the land farmed was comparatively new and still the yields obtained were, in many cases, discouragingly low. After some consideration, the House appointed a select committee to inquire as to the best means to adopt to encourage and develop the agricultural interests, in the prosperity of which all classes of the community were so deeply concerned. The report of the

ducted with all sorts of farm crops and fruits to find out the best methods to adopt in order to bring profitable results. It was further recommended that the information gained should be published from time to time and disseminated freely among the farmers of the Dominion.

During 1886, an Act was introduced and passed almost unanimously author-

izing the Dominion Government to establish a Central Experimental Farm and four branch farms.

The work to be undertaken, as set forth in the Act under which these farms were established, covered all the most important branches of agriculture, horticulture and arboriculture.

The Central Farm was located at Ottawa, and branch farms at Nappan, N.S., Brandon, Man., Indian Head, Northwest Territories, and Agassiz, B.C. In choosing these sites, the purpose in view was to have them located

town, in Prince Edward Island; Kentville, in Nova Scotia; Fredericton, in New Brunswick; Cap Rouge and Ste. Anne de la Pocatiere, in Quebec; Rosthern and Scott, in Saskatchewan; Lethbridge and Lacombe, in Alberta, and Inverness and Sydney in British Columbia, and the latter at Kamloops in British Columbia; Fort Vermillion, on the Peace River; and Forts Smith, Resolution and Providence, and Athabaska Landing, beyond the 60th parallel of latitude, where some experimental work is being carried on. It can there-



Bunch of Ewes at Indian Head Farm.

so as to be fairly representative of the largest farming areas in the provinces they were to serve, while in the management of the work such experiments as would be most likely to be beneficial to the greatest number in each case were the first to engage the attention of the officers in charge.

To the five original farms, there have, in recent years, been added eleven new stations, besides six substations in more or less remote districts. The former are situated at Charlotte-

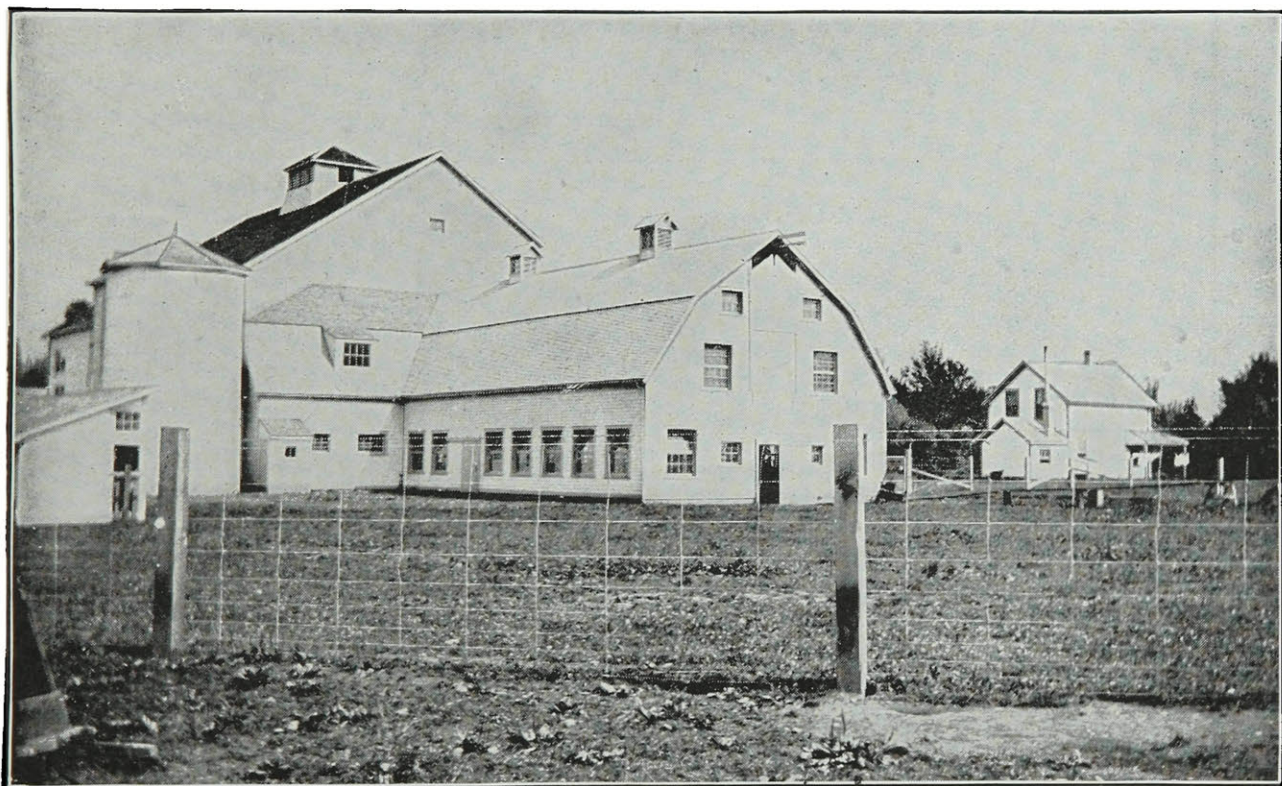
fore be said that within the Experimental Farms System, facilities are in operation for the study of practically all agricultural problems of a general nature, wherever in Canada they may arise.

At the Central Farm, in addition to carrying on those extensive varietal and cultural experiments inaugurated at all the farms, are the headquarters of the Director and the technical and administrative staff that work under his direction. These include the Dominion chemist, horticulturist, cerealist, bot-

anist, entomologist, field husbandman, animal husbandman, and poultryman, whose fields of action extend over the entire system, and in the cases of the entomologist and botanist, into the open field beyond the confines of the farms or stations.

It would be useless to attempt to deal, in a brief article, with all the work, or even kinds of work, carried on by the Experimental Farms. At the very beginning, an effort was made to improve the wheat stock of the country.

ing and baking qualities. Of the thousands of hybrids that have been produced, none have been retained (for propagation as a bread-making wheat) that lacked these qualifications. Thousands of new kinds of wheat have been bred, most of which were rejected while they were still single plants. Others have been grown in small plots, and others, again, in larger plots, sometimes for several years. A few of the best have been tried at other farms, and subjected to milling and baking tests



Group of Farm Buildings and Dairy. Experimental Farm, Agassiz, B.C.

Northern Russia, the plains of India, and other remote districts were searched for new varieties, and not without success. From Russia, there was brought Ladoga that served a good purpose as a breeding stock. In India, Hard Red Calcutta was discovered, and from this and other parent types valuable new sorts have been evolved.

In the breeding of wheats, three chief qualifications have been kept in view, viz., productiveness, earliness and mill-

also. Altogether, about a dozen varieties, so far, have been introduced to the public,—some of these only for special and peculiar conditions. Of these varieties special reference might be made to two sorts which have come to occupy very prominent positions. These are named Marquis and Prelude. The former is derived from one of the crosses between Red Fife and Hard Red Calcutta, made on the Experimental Farms many years ago. Except for

earliness, this wheat is almost indistinguishable from Red Fife, in the field, and in its action in the mill, and in the bakery; so that it combines in itself to a high degree all the advantages looked for. It retains essentially, the Red Fife quality in baking, and, at the same time, it shows a distinct advance in earliness. As a yielder, it greatly excels Red Fife under prairie province conditions.

The newer Prelude is valuable chiefly for its early maturing qualities. Besides giving a good yield of No. 1 milling wheat, it ripens about ten days ahead of the standard wheats grown in Western Canada. What Prelude will accomplish in extending northward the wheat belt no one can at present estimate.

A long series of experiments with fertilizers produced two very valuable



Cereal Plots at Central Farm.

In world's competitions, this wheat has thrice defeated all other sorts. At the New York Lands Show, in 1911, 100 lbs. of Marquis, grown in Saskatchewan, won a thousand dollar prize; the following year, at the Dry Farming Congress, held at Lethbridge, the championship award won by it was a \$2,500 farm engine, and again at the 1913 Dry Farming Congress this wheat proved its superiority.

lessons. Farmyard manure in the fresh state was shown to be as valuable, ton for ton, in crop production, as that which was rotted down to less than half its weight and bulk. The, at present, well recognized value of clover as a fertilizer was brought prominently to the front in this series of experiments.

Investigation, with fodder crops have greatly extended the area in which fodder corn can be satisfactorily grown.

In the Prairie Provinces, where this crop was a few years ago considered out of the question, farmers are now growing yields of from twelve to fifteen tons per acre of fodder, fit for silage purposes.

The value of a proper rotation is now generally recognized, but perhaps few are aware to what extent experiments at the central and branch farms have helped to solve this important matter on which successful wheat culture in the West so much depends.

The work carried on in animal husbandry has touched practically every point that interests the man on the land. It has been shown that the better bred the calf, the more profitably will it convert food into meat, and that the condition at the beginning of fattening has a marked influence on the ultimate profits secured, feeders carrying the most flesh, up to a reasonable point, yielding the greatest net return.

Perhaps the most valuable lessons learned in swine raising are that warm housing in winter is not only unnecessary but injurious to breeding animals, and that cheap, coarse food is better than concentrated rations.

At the Central and some of the branch farms, the breeding swine live out-of-doors practically the whole year round, and feed upon such cheap foods as pasture, roots, soiling crops and clover hay, with very little grain food. The only protection given the sows during the winter (and the temperature

at Ottawa often reaches 15 degrees below zero) is small, single-board cabins, and these also provide shade during the summer. The winter food consists chiefly of roots and clover hay (the latter fed whole in racks) with a small quantity of shorts and bran.

From the beginning, an effort has been made to discover fruits that may be grown in the colder latitudes of Canada. In introduction and cross-breeding, hundreds of new varieties of apples have been produced. There are now growing and doing well at the Central Farm more than four hundred second cross apple trees, consisting of nearly fifty varieties, many of which, it is expected, will prove of good quality and hardy in the Prairie Provinces and in Northern Ontario and Northern Quebec. The production of the new seedlings has received much attention at the Central Farm, which, on account of its location, is admirably adapted to the process of elimination of tender sorts.

Much work is also done with other fruits and vegetables. The space available will not permit a reference to work undertaken in the chemical laboratory, the divisions of entomology, botany, tobacco and poultry, and in the arboretum. It must suffice to say that each is manned with capable and energetic experts who are alive to the greatness of their duties and the opportunities that these afford for service in the great cause of agriculture.

“Still will the seeds, tho chosen with toilsome pains,
Degenerate, if man’s industrious hands
Call not each year the largest and the best.
’Tis thus by destiny, all things decay
And retrograde with motion unperceived.”—*Virgil*.

Fur Specialties, Staples and Imitations.

By J. WALTER JONES, B.S.A., Author of "Fur Farming in Canada "



WHEN Isaac, the Hebrew patriarch, desired a specialty in meat he requested Esau to go forth to the woods and capture and slay a wild animal, but the shrewder Jacob forestalled his brother and deprived him

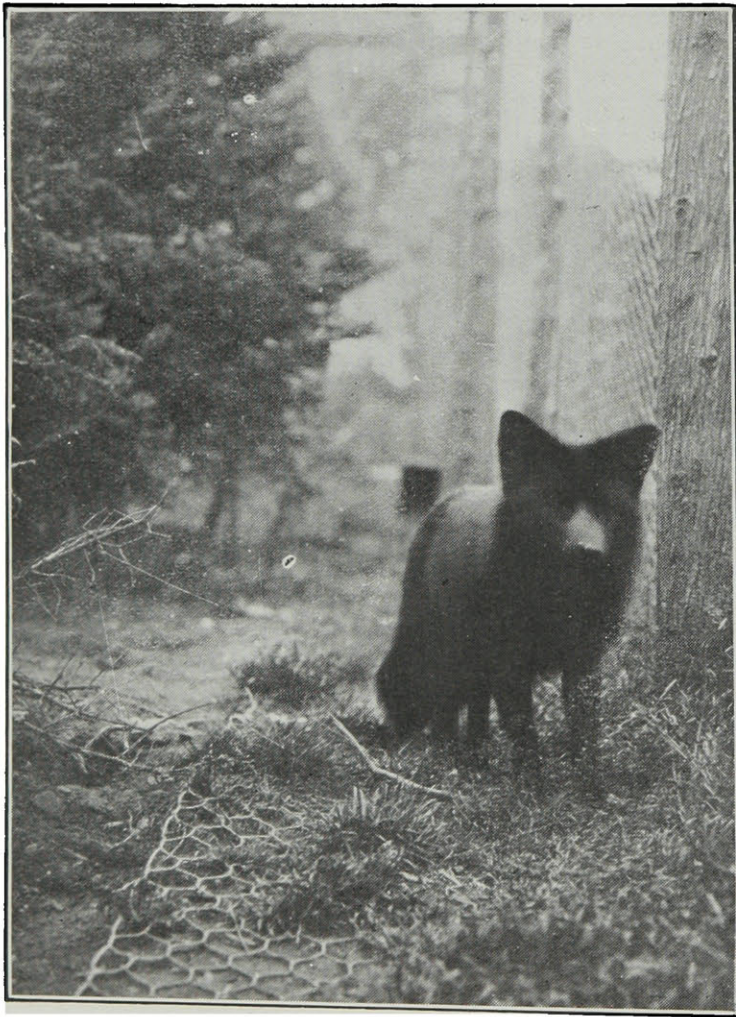
mighty struggle for that modern birth-right of the fittest—commercial supremacy.

Staple furs, as well as specialties, are in great demand at the present time, and are advancing sharply in price, due to the noticeably increasing scarcity of

the animals bearing these furs. The scarcity has been caused by the destruction of the haunts of fur-bearers and also by the keener and more intelligent hunting of recent years. The increasing demand is caused by a more lavish generation, which is alarmingly controlled by the whims of Dame Fashion, demanding, as she does, a half dozen sets of furs yearly. And the demand is also increased by the obvious fact that people live out of doors to-day more than they did in preceding generations.

Just as surely as fashions change specialties in fur will be in demand. And what are fur specialties to-day? Any piece of silver fox, or sea otter, or Russian sable, or real chinchilla, or baby lamb is a specialty. These precious furs, moreover, are not specialties wholly because of their scarcity;

more likely they are scarce because of great beauty. They can hardly be there imitated, even crudely. Especially is this true of the silver fox, whose black guard, or overhair, is silver spotted. Therefore, while Dame Fashion is fickle, the element of beauty, which, in the case of furs also is associated with rare and valuable animals, may be regarded as constant.



Ten Thousand Dollars' Worth o. Fox.

of his birthright by meeting his father's demand with a domesticated kid period.

To-day, on Prince Edward Island, there are many Jacobs who are shrewdly preparing to supply the world's demand for specialties in furs by domesticating the most valuable of fur-bearing animals, and the sturdy hunters and trappers of the wilds are being outdone in the

The prices of the pelts of the better species of fur-bearers have advanced about three hundred per cent, in the past twenty years. What will be the advance in the next two decades, unless a larger quantity is produced? Russia has a prohibitive measure against killing the sable, and Bolivia a similar act for the protection of the chinchilla. This is evidence of the concern which each country has for its declining exports of fur, and both nations are attempting strenuously to farm these animals. But no restrictive killing laws ever invented will restore any of these valuable fur-bearing animals (excepting, perhaps, the Alaska seal) to its former numbers. The only method to be considered, then, is that of domestic production, if the numbers of the animals are to be increased. Unless fur farming becomes widely established, few furs of high quality will be available.

It is a notable fact, however, that more furs are worn than ever before. Where do they come from? Wherein consists the scarcity when every other person encountered in the winter season is adorned with "electric seal," "mink," "black lynx," "sable," "fisher," or "Hudson Bay seal"? The responsibility for these rabbits, woodchucks, opossums, skunks and muskrats, so parading on Saturday nights, rests with the fur dressers and dyers. They can make chinchilla from rabbit and aigrettes from goat hair. Did one ever think to ask what becomes of the eighty million rabbit skins which are consumed annually in London? Why do not the nine million muskrats which are slaughtered every year satisfy the demand? Four million opossums, the annual killing of that animal, should be sufficient, one would think; but, in addition, there are one and a half million skunk skins, five million marmot and two and

a half million fox pelts used every year to supply all demands. And even then prices have trebled within the last twenty years. The following table of prices, giving the quotations for a period of years, shows that the popular demand for staple furs is at present short of being supplied:

Year	Persians	Marmot	Muskrat	Mink	Lynx	Opossum
1890..	\$2 06	\$0 19	\$0 22	\$1 03	\$7 38	\$0 16
1903..	3 09	0 12	0 16	2 58	19 80	0 28
1910.	6 70	0 90	0 87	6 34	39 85	1 95

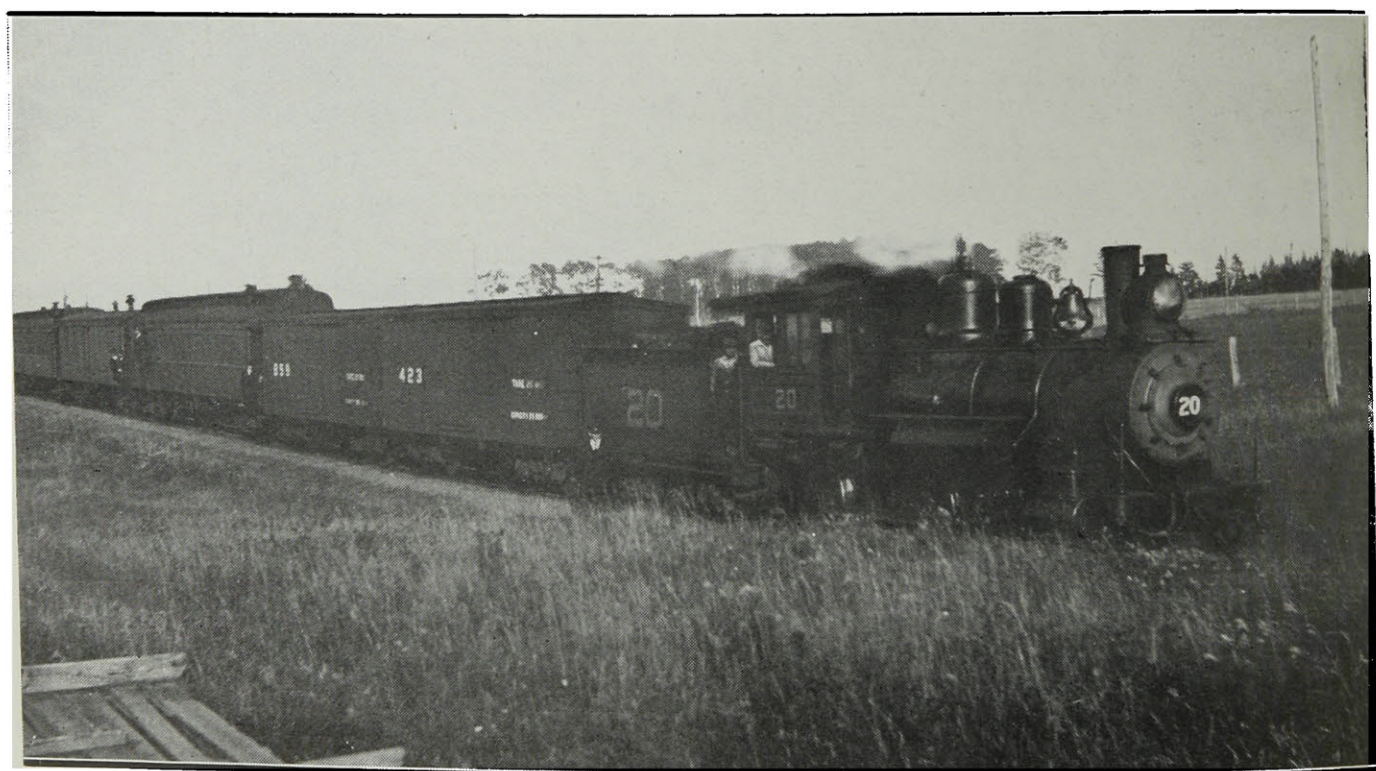
The above quotations demonstrate clearly that staple furs, as well as those cheaper kinds which are used to imitate staple, are increasing rapidly in price. What, then, is the logical conclusion with regard to the future demand for specialties? The answer seems to be that since fur specialties are the most beautiful they will be comparatively rare for twenty years, even if wholesale domestication of the valuable animals were achieved immediately. Their beauty and scarcity will combine to strengthen the market until tens of thousands of skins are produced annually.

Speaking particularly of the silver fox as a specialty, is it not probable that its present fame will create a craze amongst fashion-mongers which may advance the price of pelts to unheard-of figures? The small number of silver fox for years to come will insure its classification as a specialty. If only ten thousand three-skin sets of silver fox were to be sold yearly that number of pelts, at the present rate of increase, could not be realized yet for five or six years. A high-grade, pedigreed silver breeding fox is valued to-day at from ten to fifteen thousand dollars, or probably about six or eight times his skin value. This price is justified when the comparatively great scarcity of the animals is con-

sidered. Judging by the prices which are paid for other important domestic animals, ten thousand dollars is not a high price for a choice specimen of silver fox. The famous Merino ram, "President," was once sold for \$8,400, even though his wool and flesh combined were not worth more than \$20. Yet a first-class breeding silver fox will fetch only ten or fifteen thousand dollars, when his skin is worth upwards of \$1,500. Silver fox prices are not any higher than they

Persian lamb, astrachan and broadtail, or baby lamb fur.

The aim of the farmers of Prince Edward Island is to produce a grade of stock that will be in demand the world over for breeding purposes. As Scotland is the source of supply for Clydesdales, France for Percherons, Holland for Holsteins, England for Leicesters, Bokhara for Karakule sheep, so will Prince Edward Island feature as the home of pure-bred breeding foxes. At



The Million Dollar Train.

(This train was used in transferring the foxes of a ranch from one part of the island to another, and was so called on account of the great value of its cargo.)

should be when judged by the possibilities in fur-farming.

In addition to the fox ranches there are on Prince Edward Island minkeries, skunkeries and farms for the rearing of fisher, otter and raccoons. Beaver are being experimented with, and Russian sable are on their way across the ocean at the time of writing. Sheep from the now inaccessible Bokhara, in Asia, have also been imported for the production of

the present time the majority of the ranchmen are inexperienced; and the majority of the animals are not high grade in respect to fur value, size and fecundity. But as large a proportion of good specimens exist as in any other live stock industry, while practically all the skillful husbandmen in existence live on Prince Edward Island. It is safe to say, then, that ranchmen in Russia, Sweden, Norway, Canada, and Alaska

and the United States will continue to purchase live stock from the Island for many years to come.

The people of Prince Edward Island are only moderately optimistic regarding high prices in future. They are content to take any price—even the skin value in London—as that alone will make them rich far beyond their wildest dreams of ten years ago. If they all

fully realized the amount of money a lavish age would spend on their beautiful product the prices would be increased. But even when it eventually becomes a staple fur, and when the furriers are able to purchase it from the London brokers or local jobbers at \$100 a skin, there will still be immense profit in the industry.—*Courtesy Toronto Globe.*

PRESIDENT WILSON AND HIS CLASS OF COUNTRY BOYS.

With a single exception, every member of President Wilson's cabinet began life as a boy in some small country town. Making the best use of early opportunities, they developed their talents by study, steadily working their way through school and, in most cases, through college toward that broader experience in the affairs of life which ultimately fitted them to become "cabinet timber." Their example should be an inspiration to those who, being born and raised in the small country town, are apt to consider their surroundings as unfavorable. If a youth has ambition and energy he will surely find the gate of opportunity open. In no part of the world have there been finer illustrations of the development of self-reliance, prudence, concentration, and those other traits of character than in the country town or village.—*Exchange.*

Fairy Tales of Science.

By PROF. LOCHHEAD.



EVER since man appeared on the earth the unceasing recurrence of the seasons and their changes have profoundly influenced his mind and the literature of every age teems with allusions to the wonderful drama of the seasons. In these latter days, when science has brought her argus-eyed intelligence to bear upon many-sided

tribute of human life, especially under the conditions of meagre protection. With man, as with many other animals, it was too frequently a case of the survival of the fittest and strongest.

But with the return of spring and warm sunshine our ancestors would see, as we do, the breaking of the winter's fetters, the seeming dead things return to life, and a surprising exuberance of



Jack Frost at his Best.

Nature she has in a great measure robbed us of the mysteriousness of Nature's moods that deeply touched the imagination of our rude forefathers.

Man in his development from the time of the "Man of Sussex" to the present has had a long up-hill fight against his environment. In northern latitudes the cold and death-like silence of winter would always exact its ghastly

life everywhere in the outburst of foliage and in the rapid multiplication of animals and plants—the death-like torpor of winter exchanged for the joyousness of spring.

In all ages the moods of the seasons may be seen reflected in the moods of man, and one finds in many countries a number of stories called by us "fairy tales" or myths, couched in symbolic

language, and dealing with the resurgence of Nature. The deeper inner meaning of these stories is too often lost in these modern days, when scientific facts are told in literal prosaic language, and, as a result, these beautiful tales are relegated to the nursery where they are related to children at their face value.

The German Folk-tales, collected by the Brothers Grimm, are among the best of their kind. In them all Nature is alive and becomes personified. The big things and the little things of creation, animate and inanimate alike, become companions of man and talk with him. The beautiful are most lovely and the ugly and wicked most hideous. Good triumphs over evil by the aid of kindly sprites which sympathize with the oppressed.

In these Tales one gets glimpses into man's early conception of his surroundings at a time when he lived very close to Nature. While his ideas of cause and effect may appear crude to us yet his observations were often keen and searching. He gave free play to his imagination in his efforts to explain the causes of phenomena, but through his searchings after the truth one can trace the beginnings of science.

It is not possible here to deal with all the hidden scientific truths in the Tales and Myths that have come down to us; however, a glance will be given at two or three of the most familiar tales.

Every child loves to hear the story of the wonderfully beautiful Princess called Sleeping Beauty—the Dornoschen of the Germans. Pierced in the hand by a spindle she fell into a deep sleep in an enchanted castle, and nothing could awaken her except the Kiss of the right Prince. We nearly miss the real meaning of the story in its simple symbolic language. The beautiful young Princess is the Earth with its exuberant

summer life; the piercing spindle is the shaft of the winter cold; her sleep the torpor of winter; and the awakening kiss is the warm sunshine of spring. The blowing of the buglers is the songs of the birds, and the croaking of the frogs. In the awakening of the inmates, the men-at-arms are the bears; and other hibernating animals; the night-watchmen are the bats; the carpet-sweepers are the mice; and the messengers are the bees, dragon-flies, moths, etc., etc.

In Scandinavian Norse mythology there is the interesting story of Balder the Beautiful—the beloved of all the Gods and man. He was invulnerable to everything except the mistletoe, by which, however, he was slain. Balder, too, represents the surgent life of summer, and the twig of mistletoe which fruits in winter the freezing cold of winter. In this myth Balder is killed, but his death is truly avenged by his friends.

In Greek and Roman mythology, the story of Demeter and Proserpina is an interesting one. Demeter, the goddess of the fruitful Earth, has a daughter Proserpina who is snatched from her and taken down to Pluto. Demeter, with the grief of a true mother which cannot be assuaged, continues to search for her lost child until she finds her in the underworld. Proserpina is allowed to return with her mother on the condition that she spend a third of the year with Pluto. Here again the myth evidently refers to the mystery of the sprouting and growth of seeds after their winter rest in the Earth which is a careful nurse of the seeds committed to her charge.

The wonderful tales in Greek mythology regarding the exploits of Dionysius the god of the Vine, in which he comes off victorious in every encounter, are symbolic representations of the produc-

tive, overflowing and intoxicating power of Nature. In the warm tropical countries of Egypt and Persia where, on the other hand, heat, not cold, kills life, there is the myth of the Phoenix, a bird which, when old, was consumed by fire. From its ashes, however, it rose again but renewed with youth. Here the reference is plainly to the revival of life after the hot burning season, when apparently nothing remains save the ashes of the parched plants.

Examples such as the above might be multiplied from the mythology of many of the nations of the world, but those

already instanced should indicate sufficiently clearly that the Earth, with its seasonal changes, has been closely observed from the earliest times. The old folk heard the Pipes of Pan in Nature where we only hear the soft breezes and the raging storms. They saw the Pied Piper where we observe Spring appearing with a crowd of young things in its train; and they listened to Orpheus with his all-compelling music where we stand raptured at the magical strength of spring-time, which compels all living things to rejoice and be glad. Perhaps, after all, they saw more than we do.



A Bit of the Dining Hall.